FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) RENEWAL OFFICE OF AIR QUALITY

Building Materials Manufacturing Corporation
901 Givens Road
Mt. Vernon, Indiana 47620

(herein known as the Permittee) is hereby authorized to operate subject to the conditions contained herein, the source described in Section A (Source Summary) of this permit.

This permit is issued in accordance with 326 IAC 2 and 40 CFR Part 70 Appendix A and contains the conditions and provisions specified in 326 IAC 2-8 as required by 42 U.S.C. 7401, et. seq. (Clean Air Act as amended by the 1990 Clean Air Act Amendments), 40 CFR Part 70.6, IC 13-15 and IC 13-17.

Operation Permit No.: F129-14097-00011	
Issued by:Original signed by Paul Dubenetzky Paul Dubenetzky, Branch Chief Office of Air Quality	Issuance Date: April 25, 2002 Expiration Date: April 25, 2007

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-8-3(b)]

The Permittee owns and operates a stationary asphalt roofing manufacturing plant.

Authorized Individual:	Mel Taylor
Source Address:	901 Givens Road, Mt. Vernon, IN 47620
Mailing Address:	901 Givens Raod, Mt. Vernon, IN 47620
SIC Code:	2952
Source Location Status:	Posey
County Status:	Attainment for all criteria pollutants
Source Status:	Federally Enforceable State Operating Permit (FESOP) Minor Source, under PSD Rules; Minor Source, Section 112 of the Clean Air Act

A.2 Emission Units and Pollution Control Equipment Summary [326 IAC 2-8-3(c)(3)]

This stationary source consists of the following emission units and pollution control devices:

(a) One (1) shingles & rolls production line with a maximum production rate of 73 tons per hour, installed in 1972 and exhausting through stacks S5 and S6.

(b) One (1) modified bitumen production line with a maximum production rate of 12.9 tons per hour, installed in 1986 and exhausting through stack S3.

(c) One (1) asphalt blowing operation with a maximum blowing rate of 40,000 pounds per hour with emissions controlled by afterburner (boiler nos. 1 and 2), installed in 1973 and exhausting though stack S32.

(d) Storage and handling of bulk material consisting of the following:

(1) Shingle and modified bitumen granules handling with maximum throughput of 268,072 tons per year, and exhausting through stacks S13, S14, S27, S28, S29 and S30.

(2) Shingle and modified bitumen filler handling with maximum throughput of 280,404 tons per year, utilizing dust collectors for particulate matter control, and exhausting through stacks S9, S19, S20, S21, S22, S23 and S24.

(3) Talc handling with maximum throughput of 801 tons per year, utilizing dust collectors for particulate matter control, and exhausting through stacks S18 and S25.

(4) Single and modified bitumen sand handling with maximum throughput of 40,593 tons per year, and exhausting through stacks S15, S17 and S26.

(e) Two (2) No. 6 fuel oil fired boilers, identified as boiler nos. 1 & 2, each with a maximum heat input capacity of 29.14 MMBtu/hr and installed in 1972, and each exhausting through stack S32. Boiler No. 1 serves as a primary boiler, and boiler No. 2 serves as a backup unit.

(f) One (1) No. 6 fuel oil fired combustion unit, identified as mill oil heater # 2, with a maximum heat input capacity of 2.5 MMBtu/hr, and exhausting through stack S33.

(g) One (1) No. 6 fuel oil fired combustion unit, identified as coating heater, with a maximum heat input capacity of 4.5 MMBtu/hr, and exhausting through stack S34.

(h) One (1) natural gas fired combustion unit, identified as flux heater, with a maximum heat input capacity of 7.5 MMBtu/hr, with a spare unit fired by No. 6 fuel oil (standby), and exhausting through stacks S35 and S36.

(i) One (1) natural gas fired combustion unit, identified as mod-bit hot oil heater, with a maximum heat input capacity of 5.2 MMBtu/hr, using No. 6 fuel as a backup fuel, and exhausting through stack S2.

(j) One (1) natural gas fired combustion unit, identified as filler heater hot oil heater, with a maximum heat input capacity of 6.5 MMBtu/hr, using No. 6 fuel oil as a backup fuel, and exhausting through stack S4.

(k) One (1) natural gas fired combustion unit, identified as liquid asphalt storage heater, with a maximum heat input capacity of 2.5 MMBtu/hr, using No. 2 fuel oil as a backup fuel, and exhausting through stack S1.

(l) One (1) bulk asphalt flux main storage tank, identified as T-1, installed in 1972 with maximum storage capacity of 1,000,000 gallons of asphalt.

(m) Five (5) storage tanks, identified as T-3 (flux preheat tank), T-4 (SBS/AC-5/weather watch), T-5 (AC-5 asphalt), T-6 (coating asphalt) and T-7 (coating asphalt), each installed in 1972 and each with a maximum storage capacity of 30,000 gallons of asphalt.

(n) Two (2) storage tanks, identified as T-20 (liquid APP plasticizer) and T-18 (holding tank package asphalt), installed in 1986 and 1985, respectively, and each with maximum storage capacity of 30,000 gallons.

(o) Two (2) storage tanks, identified as T-8 (self-seal asphalt) and T-16 (self-seal asphalt slateline), each installed in 1989 and each with a maximum storage capacity of 14,000 gallons.

(p) Three (3) storage tanks, identified as T-9 (steep asphalt), T-17 (cooling package asphalt) and M-5 (mod-bit mixed material-hold tank), each installed in 1977, 1985, 1985 and with maximum capacity of 8,000, 12,000 and 6,500 gallons, respectively.

(q) One (1) No. 6 fuel oil storage tank, identified as TK-22, installed in 1990 with maximum storage capacity of 38,000 gallons.

A.3 Insignificant Activities [326 IAC 2-7-1(21)] [326 IAC 2-8-3(c)(3)(I)]

This stationary source also includes the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) One (1) No. 2 fuel oil fired combustion unit, identified as mill oil heater # 1, with a maximum heat input capacity of 1.5 MMBtu/hr, and exhausting through stack S31.

(b) One (1) propane fired combustion unit, identified as mat heater, with a rated capacity of 1.0 MMBtu/hr.

(c) One (1) propane fired combustion unit, identified as flame bar, with a rated capacity fo 1.0 MMBtu/hr.

(d) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 10,500 gallons.

A.4 FESOP Applicability [326 IAC 2-8-2]

This stationary source, otherwise required to have a Part 70 permit as described in 326 IAC 2-7-2(a), has applied to the Indiana Department of Environmental Management (IDEM), Office of Air Quality (OAQ) to renew a Federally Enforceable State Operating Permit (FESOP).

A.5 Prior Permit Conditions

(a) This permit shall be used as the primary document for determining compliance with applicable requirements established by previously issued permits.

(b) If, after issuance of this permit, it is determined that the permit is in nonconformance with an applicable requirement that applied to the source on the date of permit issuance, including any term or condition from a previously issued construction or operation permit, IDEM, OAQ, shall immediately take steps to reopen and revise this permit and issue a compliance order to the Permittee to ensure expeditious compliance with the applicable requirement until the permit is reissued.

A.6 Prior Permits Superseded [326 IAC 2-1.1-9.5]

(a) All terms and conditions of previous permits issued pursuant to permitting programs approved into the state implementation plan have been either

(1) incorporated as originally stated,

(2) revised, or

(3) deleted

by this permit.

(b) All previous registrations and permits are superseded by this permit.

SECTION B GENERAL CONDITIONS

B.1 Permit No Defense [IC 13]

Indiana statutes from IC 13 and rules from 326 IAC, quoted in conditions in this permit, are those applicable at the time the permit was issued. The issuance or possession of this permit shall not alone constitute a defense against an alleged violation of any law, regulation or standard, except for the requirement to obtain a FESOP under 326 IAC 2-8.

B.2 Definitions [326 IAC 2-8-1]

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, the applicable definitions found in the statutes or regulations (IC 13-11, 326 IAC 1-2, and 326 IAC 2-7) shall prevail.

B.3 Permit Term [326 IAC 2-8-4(2)]

This permit is issued for a fixed term of five (5) years from the original date, as determined in accordance with IC 4-21.5-3-5(f) and IC 13-15-5-3. Subsequent revisions, modifications, or amendments of this permit do not affect the expiration date.

B.4 Enforceability [326 IAC 2-8-6]

Unless otherwise stated, all terms and conditions in this permit, including any provisions designed to limit the source's potential to emit, are enforceable by IDEM , the United States Environmental Protection Agency (U.S. EPA) and by citizens in accordance with the Clean Air Act.

B.5 Termination of Right to Operate [326 IAC 2-8-9] [326 IAC 2-8-3(h)]

The Permittee's right to operate this source terminates with the expiration of this permit unless a timely and complete renewal application is submitted at least nine (9) months prior to the date of expiration of the source's existing permit, consistent with 326 IAC 2-8-3(h) and 326 IAC 2-8-9.

B.6 Severability [326 IAC 2-8-4(4)]

The provisions of this permit are severable; a determination that any portion of this permit is invalid shall not affect the validity of the remainder of the permit.

B.7 Property Rights or Exclusive Privilege [326 IAC 2-8-4(5)(D)]

This permit does not convey any property rights of any sort, or any exclusive privilege.

B.8 Duty to Supplement and Provide Information [326 IAC 2-8-3(f)] [326 IAC 2-8-4(5)(E)] [326 IAC 2-8-5(a)(4)]

(a) The Permittee, upon becoming aware that any relevant facts were omitted or incorrect information was submitted in the permit application, shall promptly submit such supplementary facts or corrected information to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall furnish to IDEM, OAQ, within a reasonable time, any information that IDEM, OAQ, may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The submittal by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1). Upon request, the Permittee shall also furnish to IDEM, OAQ, copies of records required to be kept by this permit or, for information claimed to be confidential, the Permittee may furnish such records directly to the U. S. EPA along with a claim of confidentiality.[326 IAC 2-8-4(5)(E)]

(c) The Permittee may include a claim of confidentiality in accordance with 326 IAC 17. When furnishing copies of requested records directly to U. S. EPA, the Permittee may assert a claim of confidentiality in accordance with 40 CFR 2, Subpart B.

B.9 Compliance Order Issuance [326 IAC 2-8-5(b)]

IDEM, OAQ may issue a compliance order to this Permittee upon discovery that this permit is in nonconformance with an applicable requirement. The order may require immediate compliance or contain a schedule for expeditious compliance with the applicable requirement.

B.10 Compliance with Permit Conditions [326 IAC 2-8-4(5)(A)] [326 IAC 2-8-4(5)(B)]

(a) The Permittee must comply with all conditions of this permit. Noncompliance with any provisions of this permit is grounds for:

(1) Enforcement action;

(2) Permit termination, revocation and reissuance, or modification; and

(3) Denial of a permit renewal application.

(b) It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

(c) An emergency does constitute an affirmative defense in an enforcement action provided the Permittee complies with the applicable requirements set forth in condition B, Emergency Provisions.

B.11 Certification [326 IAC 2-8-3(d)] [326 IAC 2-8-4(3)(C)(i)] [326 IAC 2-8-5(1)]

(a) Where specifically designated by this permit or required by an applicable requirement, any application form, report, or compliance certification submitted shall contain certification by an authorized individual of truth, accuracy, and completeness. This certification, shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

(b) One (1) certification shall be included, using the attached Certification Form, with each submittal requiring certification.

(c) An authorized individual is defined at 326 IAC 2-1.1-1(1).

B.12 Annual Compliance Certification [326 IAC 2-8-5(a)(1)]

(a) The Permittee shall annually submit a compliance certification report which addresses the status of the source's compliance with the terms and conditions contained in this permit, including emission limitations, standards, or work practices. All certifications shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in letter form no later than July 1 of each year to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

(b) The annual compliance certification report required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(c) The annual compliance certification report shall include the following:

(1) The appropriate identification of each term or condition of this permit that is the basis of the certification;

(2) The compliance status;

(3) Whether compliance was continuous or intermittent;

(4) The methods used for determining the compliance status of the source, currently and over the reporting period consistent with 326 IAC 2-8-4(3); and

(5) Such other facts as specified in Sections D of this permit, IDEM, OAQ, may require to determine the compliance status of the source.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

B.13 Preventive Maintenance Plan [326 IAC 1-6-3] [326 IAC 2-8-4(9)] [326 IAC 2-8-5(a)(1)]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall maintain and implement Preventive Maintenance Plans (PMPs), including the following information on each facility:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions; and

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) The Permittee shall implement the PMPs as necessary to ensure that failure to implement a PMP does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) A copy of the PMPs shall be submitted to IDEM, OAQ, upon request and within a reasonable time, and shall be subject to review and approval by IDEM, OAQ, . IDEM, OAQ, may require the Permittee to revise its PMPs whenever lack of proper maintenance causes or contributes to any violation. The PMP does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(d) Records of preventive maintenance shall be retained for a period of at least five (5) years. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

B.14 Emergency Provisions [326 IAC 2-8-12]

(a) An emergency, as defined in 326 IAC 2-7-1(12), is not an affirmative defense for an action brought for noncompliance with a federal or state health-based emission limitation, except as provided in 326 IAC 2-8-12.

(b) An emergency, as defined in 326 IAC 2-7-1(12), constitutes an affirmative defense to an action brought for noncompliance with a health-based or technology-based emission limitation if the affirmative defense of an emergency is demonstrated through properly signed, contemporaneous operating logs or other relevant evidence that describes the following:

(1) An emergency occurred and the Permittee can, to the extent possible, identify the causes of the emergency;

(2) The permitted facility was at the time being properly operated;

(3) During the period of an emergency, the Permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards or other requirements in this permit;

(4) For each emergency lasting one (1) hour or more, the Permittee notified IDEM, OAQ, within four (4) daytime business hours after the beginning of the emergency, or after the emergency was discovered or reasonably should have been discovered;

Telephone No.: 1-800-451-6027 (ask for Office of Air Quality, Compliance Section) or,
Telephone No.: 317-233-5674 (ask for Compliance Section)
Facsimile No.: 317-233-5967
Telephone No.: 812-436-2570 (IDEM Southwest Regional Office)
Facsimile No.: 812-436-2572 (IDEM Southwest Regional Office)

Failure to notify IDEM, OAQ, by telephone or facsimile within four (4) daytime business hours after the beginning of the emergency, or after the emergency is discovered or reasonably should have been discovered, shall constitute a violation of 326 IAC 2-8 and any other applicable rules. [326 IAC 2-8-12(f)]

(5) For each emergency lasting one (1) hour or more, the Permittee submitted the attached Emergency Occurrence Report Form or its equivalent, either by mail or facsimile to:

Indiana Department of Environmental Management
Compliance Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

within two (2) working days of the time when emission limitations were exceeded due to the emergency.

The notice fulfills the requirement of 326 IAC 2-8-4(3)(C)(ii) and must contain the following:

(A) A description of the emergency;

(B) Any steps taken to mitigate the emissions; and

(C) Corrective actions taken.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(6) The Permittee immediately took all reasonable steps to correct the emergency.

(c) In any enforcement proceeding, the Permittee seeking to establish the occurrence of an emergency has the burden of proof.

(d) This emergency provision supersedes 326 IAC 1-6 (Malfunctions). This permit condition is in addition to any emergency or upset provision contained in any applicable requirement.

(e) IDEM, OAQ , may require that the Preventive Maintenance Plans required under 326 IAC 2-8-3(c)(6) be revised in response to an emergency.

(f) Failure to notify IDEM, OAQ , by telephone or facsimile of an emergency lasting more than one (1) hour in accordance with (b)(4) and (5) of this condition shall constitute a violation of 326 IAC 2-8 and any other applicable rules.

(g) Operations may continue during an emergency only if the following conditions are met:

(1) If the emergency situation causes a deviation from a technology-based limit, the Permittee may continue to operate the affected emitting facilities during the emergency provided the Permittee immediately takes all reasonable steps to correct the emergency and minimize emissions.

(2) If an emergency situation causes a deviation from a health-based limit, the Permittee may not continue to operate the affected emissions facilities unless:

(A) The Permittee immediately takes all reasonable steps to correct the emergency situation and to minimize emissions; and

(B) Continued operation of the facilities is necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw material of substantial economic value.

Any operations shall continue no longer than the minimum time required to prevent the situations identified in (g)(2)(B) of this condition.

B.15 Deviations from Permit Requirements and Conditions [326 IAC 2-8-4(3)(C)(ii)]

(a) Deviations from any permit requirements (for emergencies see Section B - Emergency Provision), the probable cause of such deviations, and any response steps or preventive measures taken shall be reported to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

using the attached Quarterly Deviation and Compliance Monitoring Report, or its equivalent. A deviation required to be reported pursuant to an applicable requirement that exists independent of this permit, shall be reported according to the schedule stated in the applicable requirement and does need to be included in this report.

The Quarterly Deviation and Compliance Monitoring Report does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) A deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit.

(c) Emergencies shall be included in the Quarterly Deviation and Compliance Monitoring Report.

B.16 Permit Modification, Reopening, Revocation and Reissuance, or Termination [326 IAC 2-8-4(5)(C)] [326 IAC 2-8-7(a)] [326 IAC 2-8-8]

(a) This permit may be modified, reopened, revoked and reissued, or terminated for cause. The filing of a request by the Permittee for a FESOP modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any condition of this permit. [326 IAC 2-8-4(5)(C)] The notification by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) This permit shall be reopened and revised under any of the circumstances listed in IC 13-15-7-2 or if IDEM, OAQ determines any of the following:

(1) That this permit contains a material mistake.

(2) That inaccurate statements were made in establishing the emissions standards or other terms or conditions.

(3) That this permit must be revised or revoked to assure compliance with an applicable requirement. [326 IAC 2-8-8(a)]

(c) Proceedings by IDEM, OAQ , to reopen and revise this permit shall follow the same procedures as apply to initial permit issuance and shall affect only those parts of this permit for which cause to reopen exists. Such reopening and revision shall be made as expeditiously as practicable. [326 IAC 2-8-8(b)]

(d) The reopening and revision of this permit, under 326 IAC 2-8-8(a), shall not be initiated before notice of such intent is provided to the Permittee by IDEM, OAQ , at least thirty (30) days in advance of the date this permit is to be reopened, except that IDEM, OAQ , may provide a shorter time period in the case of an emergency. [326 IAC 2-8-8(c)]

B.17 Permit Renewal [326 IAC 2-8-3(h)]

(a) The application for renewal shall be submitted using the application form or forms prescribed by IDEM, OAQ and shall include the information specified in 326 IAC 2-8-3. Such information shall be included in the application for each emission unit at this source, except those emission units included on the trivial or insignificant activities list contained in 326 IAC 2-7-1(21) and 326 IAC 2-7-1(40). The renewal application does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Request for renewal shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

(b) Timely Submittal of Permit Renewal [326 IAC 2-8-3]

(1) A timely renewal application is one that is:

(A) Submitted at least nine (9) months prior to the date of the expiration of this permit; and

(B) If the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(2) If IDEM, OAQ upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied.

(c) Right to Operate After Application for Renewal [326 IAC 2-8-9]
If the Permittee submits a timely and complete application for renewal of this permit, the source's failure to have a permit is not a violation of 326 IAC 2-8 until IDEM, OAQ takes final action on the renewal application, except that this protection shall cease to apply if, subsequent to the completeness determination, the Permittee fails to submit by the deadline specified in writing by IDEM, OAQ , any additional information identified as needed to process the application.

B.18 Permit Amendment or Revision [326 IAC 2-8-10] [326 IAC 2-8-11.1]

(a) Permit amendments and revisions are governed by the requirements of 326 IAC 2-8-10 or 326 IAC 2-8-11.1 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement the administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-10(b)(3)]

B.19 Operational Flexibility [326 IAC 2-8-15]

(a) The Permittee may make any change or changes at this source that are described in 326 IAC 2-8-15(b) through (d), without prior permit revision, if each of the following conditions is met:

(1) The changes are not modifications under any provision of Title I of the Clean Air Act;

(2) Any approval required by 326 IAC 2-8-11.1 has been obtained;

(3) The changes do not result in emissions which exceed the emissions allowable under this permit (whether expressed herein as a rate of emissions or in terms of total emissions);

(4) The Permittee notifies the:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

and

United States Environmental Protection Agency, Region V
Air and Radiation Division, Regulation Development Branch - Indiana (AR-18J)
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

in advance of the change by written notification at least ten (10) days in advance of the proposed change. The Permittee shall attach every such notice to the Permittee's copy of this permit; and

(5) The Permittee maintains records on-site which document, on a rolling five (5) year basis, all such changes and emissions trading that are subject to 326 IAC 2-8-15(b) through (d) and makes such records available, upon reasonable request, to public review.

Such records shall consist of all information required to be submitted to IDEM, OAQ , in the notices specified in 326 IAC 2-8-15(b), (c)(1), and (d).

(b) The Permittee may make Section 502(b)(10) of the Clean Air Act changes (this term is defined at 326 IAC 2-7-1(36)) without a permit revision, subject to the constraint of 326 IAC 2-8-15(a) and the following additional conditions:

(1) A brief description of the change within the source;

(2) The date on which the change will occur;

(3) Any change in emissions; and

(4) Any permit term or condition that is no longer applicable as a result of the change.

The notification which shall be submitted by the Permittee does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

(c) Emission Trades [326 IAC 2-8-15(c)]
The Permittee may trade increases and decreases in emissions in the source, where the applicable SIP provides for such emission trades without requiring a permit revision, subject to the constraints of Section (a) of this condition and those in 326 IAC 2-8-15(c).

(d) Alternative Operating Scenarios [326 IAC 2-8-15(d)]
The Permittee may make changes at the source within the range of alternative operating scenarios that are described in the terms and conditions of this permit in accordance with 326 IAC 2-8-4(7). No prior notification of IDEM, OAQ or U.S. EPA is required.

B.20 Permit Revision Requirement [326 IAC 2-8-11.1]

A modification, construction, or reconstruction is governed by the requirements of 326 IAC 2 and 326 IAC 2-8-11.1.

B.21 Inspection and Entry [326 IAC 2-8-5(a)(2)] [IC 13-14-2-2]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAQ, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a FESOP source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;

(c) Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

B.22 Transfer of Ownership or Operational Control [326 IAC 2-8-10]

(a) The Permittee must comply with the requirements of 326 IAC 2-8-10 whenever the Permittee seeks to change the ownership or operational control of the source and no other change in the permit is necessary.

(b) Any application requesting a change in the ownership or operational control of the source shall contain a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new Permittee. The application shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The application which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(c) The Permittee may implement administrative amendment changes addressed in the request for an administrative amendment immediately upon submittal of the request. [326 IAC 2-8-11(b)(3)]

B.23 Annual Fee Payment [326 IAC 2-7-19] [326 IAC 2-8-4(6)] [326 IAC 2-8-16]

(a) The Permittee shall pay annual fees to IDEM, OAQ, within thirty (30) calendar days of receipt of a billing. Pursuant to 326 IAC 2-7-19(b), if the Permittee does not receive a bill from IDEM, OAQ the applicable fee is due April 1 of each year.

(b) Failure to pay may result in administrative enforcement action, or revocation of this permit.

(c) The Permittee may call the following telephone numbers: 1-800-451-6027 or 317-233-0425 (ask for OAQ, Technical Support and Modeling Section), to determine the appropriate permit fee.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

Emissions Limitations and Standards [326 IAC 2-8-4(1)]

C.1 Overall Source Limit [326 IAC 2-8]

The purpose of this permit is to limit this source's potential to emit to less than major source levels for the purpose of Section 502(a) of the Clean Air Act.

(a) Pursuant to 326 IAC 2-8:

(1) The potential to emit any regulated pollutant, except particulate matter (PM), from the entire source shall be limited to less than one-hundred (100) tons per twelve (12) consecutive month period. This limitation shall also satisfy the requirements of 326 IAC 2-2;

(2) The potential to emit any individual hazardous air pollutant (HAP) from the entire source shall be limited to less than ten (10) tons per twelve (12) consecutive month period; and

(3) The potential to emit any combination of HAPs from the entire source shall be limited to less than twenty-five (25) tons per twelve (12) consecutive month period.

(b) Pursuant to 326 IAC 2-2 (Prevention of Significant Deterioration (PSD)), potential to emit particulate matter (PM) from the entire source shall be limited to less than two hundred fifty (250) tons per twelve (12) consecutive month period.

(c) This condition shall include all emission points at this source including those that are insignificant as defined in 326 IAC 2-7-1(21). The source shall be allowed to add insignificant activities not already listed in this permit, provided the source's potential to emit does not exceed the above specified limits.

(d) Section D of this permit contains independently enforceable provisions to satisfy this requirement.

C.2 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

C.3 Open Burning [326 IAC 4-1] [IC 13-17-9]

The Permittee shall not open burn any material except as provided in 326 IAC 4-1-3, 326 IAC 4-1-4 or 326 IAC 4-1-6. The previous sentence notwithstanding, the Permittee may open burn in accordance with an open burning approval issued by the Commissioner under 326 IAC 4-1-4.1.

C.4 Incineration [326 IAC 4-2] [326 IAC 9-1-2(3)]

The Permittee shall not operate an incinerator or incinerate any waste or refuse except as provided in 326 IAC 4-2 and in 326 IAC 9-1-2.

C.5 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions).

C.6 Operation of Equipment [326 IAC 2-8-5(a)(4)]

Except as otherwise provided by statute, rule or in this permit, all air pollution control equipment listed in this permit and used to comply with an applicable requirement shall be operated at all times that the emission unit vented to the control equipment is in operation.

C.7 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted.

C.8 Asbestos Abatement Projects [326 IAC 14-10] [326 IAC 18] [40 CFR 61, Subpart M]

(a) Notification requirements apply to each owner or operator. If the combined amount of regulated asbestos containing material (RACM) to be stripped, removed or disturbed is at least 260 linear feet on pipes or 160 square feet on other facility components, or at least thirty-five (35) cubic feet on all facility components, then the notification requirements of 326 IAC 14-10-3 are mandatory. All demolition projects require notification whether or not asbestos is present.

(b) The Permittee shall ensure that a written notification is sent on a form provided by the Commissioner at least ten (10) working days before asbestos stripping or removal work or before demolition begins, per 326 IAC 14-10-3, and shall update such notice as necessary, including, but not limited to the following:

(1) When the amount of affected asbestos containing material increases or decreases by at least twenty percent (20%); or

(2) If there is a change in the following:

(A) Asbestos removal or demolition start date;

(B) Removal or demolition contractor; or

(C) Waste disposal site.

(c) The Permittee shall ensure that the notice is postmarked or delivered according to the guidelines set forth in 326 IAC 14-10-3(2).

(d) The notice to be submitted shall include the information enumerated in 326 IAC 14-10-3(3).

All required notifications shall be submitted to:

Indiana Department of Environmental Management
Asbestos Section, Office of Air Quality
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

The notice shall include a signed certification from the owner or operator that the information provided in this notification is correct and that only Indiana licensed workers and project supervisors will be used to implement the asbestos removal project. The notifications do not require a certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Procedures for Asbestos Emission Control
The Permittee shall comply with the applicable emission control procedures in 326 IAC 14-10-4 and 40 CFR 61.145(c). Per 326 IAC 14-10-4 emission control requirements are applicable for any removal or disturbance of RACM greater than three (3) linear feet on pipes or three (3) square feet on any other facility components or a total of at least 0.75 cubic feet on all facility components.

(f) Indiana Accredited Asbestos Inspector
The Permittee shall comply with 326 IAC 14-10-1(a) that requires the owner or operator, prior to a renovation/demolition, to use an Indiana Accredited Asbestos Inspector to thoroughly inspect the affected portion of the facility for the presence of asbestos. The requirement that the inspector be accredited is federally enforceable.

Testing Requirements [326 IAC 2-8-4(3)]

C.9 Performance Testing [326 IAC 3-6]

(a) All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAQ.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The protocol submitted by the Permittee does not require certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

(b) The Permittee shall notify IDEM, OAQ of the actual test date at least fourteen (14) days prior to the actual test date. The notification submitted by the Permittee does not require certification by the “authorized individual” as defined by 326 IAC 2-1.1-1(1).

(c) Pursuant to 326 IAC 3-6-4(b), all test reports must be received by IDEM, OAQ not later than forty-five (45) days after the completion of the testing. An extension may be granted by IDEM, OAQ, if the source submits to IDEM, OAQ, a reasonable written explanation not later than five (5) days prior to the end of the initial forty-five (45) day period.

Compliance Requirements [326 IAC 2-1.1-11]

C.10 Compliance Requirements [326 IAC 2-1.1-11]

The commissioner may require stack testing, monitoring, or reporting at any time to assure compliance with all applicable requirements. Any monitoring or testing shall be performed in accordance with 326 IAC 3 or other methods approved by the commissioner or the U. S. EPA.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.11 Compliance Monitoring [326 IAC 2-8-4(3)] [326 IAC 2-8-5(a)(1)]

Unless otherwise specified in this permit, all monitoring and record keeping requirements not already legally required shall be implemented upon issuance of this permit. If required by Section D, the Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment.

Unless otherwise specified in the approval for the new emissions unit, compliance monitoring for new emission units or emission units added through a permit revision shall be implemented when operation begins.

C.12 Maintenance of Emission Monitoring Equipment [326 IAC 2-8-4(3)(A)(iii)]

(a) In the event that a breakdown of the emission monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no often less than once an hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.13 Monitoring Methods [326 IAC 3] [40 CFR 60] [40 CFR 63]

Any monitoring or testing performed required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, 40 CFR 60 Appendix B, 40 CFR 63 or other approved methods as specified in this permit.

C.14 Pressure Gauge and Other Instrument Specifications [326 IAC 2-1.1-11] [326 IAC 2-8-4(3)] [326 IAC 2-8-5(1)]

(a) Whenever a condition in this permit requires the measurement of pressure drop across any part of the unit or its control device, the gauge employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(b) Whenever a condition in this permit requires the measurement of a temperature, flow rate, or pH level, the instrument employed shall have a scale such that the expected normal reading shall be no less than twenty percent (20%) of full scale and be accurate within plus or minus two percent (±2%) of full scale reading.

(c) The Permittee may request the IDEM, OAQ approve the use of a pressure gauge or other instrument that does not meet the above specifications provided the Permittee can demonstrate an alternative pressure gauge or other instrument specification will adequately ensure compliance with permit conditions requiring the measurement of pressure drop or other parameters.

Corrective Actions and Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

C.15 Risk Management Plan [326 IAC 2-8-4] [40 CFR 68.215]

If a regulated substance, subject to 40 CFR 68, is present at a source in more than a threshold quantity, 40 CFR 68 is an applicable requirement and the Permittee shall submit:

(a) A compliance schedule for meeting the requirements of 40 CFR 68; or

(b) As a part of the annual compliance certification submitted under 326 IAC 2-7-6(5), a certification statement that the source is in compliance with all the requirements of 40 CFR 68, including the registration and submission of a Risk Management Plan (RMP); and

All documents submitted pursuant to this condition shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

C.16 Compliance Response Plan - Failure to Take Response Steps [326 IAC 2-8-4] [326 IAC 2-8-5]

(a) The Permittee is required to prepare a Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. A CRP shall be submitted to IDEM, OAQ upon request. The CRP shall be prepared within ninety (90) days after issuance of this permit by the Permittee, supplemented from time to time by the Permittee, maintained on site, and is comprised of:

(1) Reasonable response steps that may be implemented in the event that a response step is needed pursuant to the requirements of Section D of this permit; and an expected timeframe for taking reasonable response steps.

(2) If, at any time, the Permittee takes reasonable response steps that are not set forth in the Permittee's current Compliance Response Plan and the Permittee documents such response in accordance with subsection (e) below, the Permittee shall amend its Compliance Response Plan to include such response steps taken.

(b) For each compliance monitoring condition of this permit, reasonable response steps shall be taken when indicated by the provisions of that compliance monitoring condition as follows:

(1) Reasonable response steps shall be taken as set forth in the Permittee's current Compliance Response Plan; or

(2) If none of the reasonable response steps listed in the Compliance Response Plan is applicable or responsive to the excursion, the Permittee shall devise and implement additional response steps as expeditiously as practical. Taking such additional response steps shall not be considered a deviation from this permit so long as the Permittee documents such response steps in accordance with this condition.

(3) If the Permittee determines that additional response steps would necessitate that the emissions unit or control device be shut down, the IDEM, OAQ shall be promptly notified of the expected date of the shut down, the status of the applicable compliance monitoring parameter with respect to normal, and the results of the actions taken up to the time of notification.

(4) Failure to take reasonable response steps shall constitute a violation of the permit.

(c) The Permittee is not required to take any further response steps for any of the following reasons:

(1) A false reading occurs due to the malfunction of the monitoring equipment and prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied.

(3) An automatic measurement was taken when the process was not operating.

(4) The process has already returned or is returning to operating within "normal" parameters and no response steps are required.

(d) When implementing reasonable steps in response to a compliance monitoring condition, if the Permittee determines that an exceedance of an emission limitation has occurred, the Permittee shall report such deviations pursuant to Section B-Deviations from Permit Requirements and Conditions.

(e) The Permittee shall record all instances when response steps are taken. In the event of an emergency, the provisions of 326 IAC 2-8-12 (Emergency Provisions) requiring prompt corrective action to mitigate emissions shall prevail.

(f) Except as otherwise provided by a rule or provided specifically in Section D, all monitoring as required in Section D shall be performed when the emission unit is operating, except for time necessary to perform quality assurance and maintenance activities.

C.17 Actions Related to Noncompliance Demonstrated by a Stack Test [326 IAC 2-8-4] [326 IAC 2-8-5]

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate response actions. The Permittee shall submit a description of these response actions to IDEM, OAQ, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize excess emissions from the affected facility while the response actions are being implemented.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAQ that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAQ may extend the retesting deadline.

(c) IDEM, OAQ reserves the authority to take any actions allowed under law in response to noncompliant stack tests.

The documents submitted pursuant to this condition do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)]

C.18 General Record Keeping Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-5]

(a) Records of all required data, reports and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Unless otherwise specified in this permit, all record keeping requirements not already legally required shall be implemented within ninety (90) days of permit issuance.

C.19 General Reporting Requirements [326 IAC 2-8-4(3)(C)] [326 IAC 2-1.1-11]

(a) The source shall submit the attached Quarterly Deviation and Compliance Monitoring Report or its equivalent. Any deviation from permit requirements, the date(s) of each deviation, the cause of the deviation, and the response steps taken must be reported. This report shall be submitted within thirty (30) days of the end of the reporting period. The Quarterly Deviation and Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Quality
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAQ, on or before the date it is due.

(d) Unless otherwise specified in this permit, any quarterly report required in Section D of this permit shall be submitted within thirty (30) days of the end of the reporting period. The reports do require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) Reporting periods are based on calendar years.

Stratospheric Ozone Protection

C.20 Compliance with 40 CFR 82 and 326 IAC 22-1

Pursuant to 40 CFR 82 (Protection of Stratospheric Ozone), Subpart F, except as provided for motor vehicle air conditioners in Subpart B, the Permittee shall comply with the standards for recycling and emissions reduction:

(a) Persons opening appliances for maintenance, service, repair or disposal must comply with the required practices pursuant to 40 CFR 82.156.

(b) Equipment used during the maintenance, service, repair or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to 40 CFR 82.158.

(c) Persons performing maintenance, service, repair or disposal of appliances must be certified by an approved technician certification program pursuant to 40 CFR 82.161.

SECTION D.1 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]

(a) One (1) shingles & rolls production line with a maximum production rate of 73 tons per hour, installed in 1972 and exhausting through stacks S5 and S6.

(b) One (1) modified bitumen production line with a maximum production rate of 12.9 tons per hour, installed in 1986 and exhausting through stack S3.

(c) One (1) asphalt blowing operation with a maximum blowing rate of 40,000 pounds per hour with emissions controlled by afterburner (boiler nos. 1 and 2), installed in 1973 and exhausting though stack S32.

(d) Storage and handling of bulk material consisting of the following:
(1) Shingle and modified bitumen granules handling with maximum throughput of 268,072 tons per year, and exhausting through stacks S13, S14, S27, S28, S29 and S30.
(2) Shingle and modified bitumen filler handling with maximum throughput of 280,404 tons per year, utilizing dust collectors for particulate matter control, and exhausting through stacks S9, S19, S20, S21, S22, S23 and S24.
(3) Talc handling with maximum throughput of 801 tons per year, utilizing dust collectors for particulate matter control, and exhausting through stacks S18 and S25.
(4) Single and modified bitumen sand handling with maximum throughput of 40,593 tons per year, and exhausting through stacks S15, S17 and S26.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.1.1 General Provisions Relating to NSPS [326 IAC 12] [40 CFR 60, Subpart A]

The provisions of 40 CFR 60 Subpart A - General Provisions, which are incorporated as 326 IAC 12 apply to the facilities described in this section except when otherwise specified in 40 CFR 60 Subpart UU.

D.1.2 Particulate Matter (PM) [40 CFR Part 60.470, Subpart UU] [326 IAC 12]]

Pursuant to New Source Performance Standard, 326 IAC 12, (40 CFR 60.470, Subpart UU:

(a) The PM emissions from the modified bitumen production line shall not exceed 0.4 kilograms per megagram of asphalt shingle produced and the opacity shall not exceed twenty percent (20%).

D.1.3 Particulate Matter (PM) [326 IAC 6-3-2]

Pursuant to 326 IAC 6-3-2 (Process Operations), particulate emissions from the following facilities shall be limited as follows:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (ton/hr)	Allowable PM Emissions (326 IAC 6-3-2) (lb/hr)
Asphalt Blowing Operation	20	30.51
Shingle & roll production line	73	48.17
Modified bitumen production line	12.9	22.74
Granule handling	30.60	40.13
Filler handling	32.0	40.52
Talc handling	0.091	0.82
Sand handling	4.634	11.45

D.1.4 PM-10 Limit [326 IAC 2-8-4]

Pursuant to 326 IAC 2-8-4, PM-10 emissions shall not exceed the values stated in the following table. The combined PM-10 emissions from the listed facilities shall not exceed a total of 20.54 pound per hour, which is equivalent to 90.0 tons per year. Compliance with these PM-10 limits will satisfy 326 IAC 2-8-4. Therefore, the Part 70 rules (326 IAC 2-7) do not apply.

Emission Unit	Limited PM-10 Emissions (lb/hr)	Limited PM-10 Emissions (ton/yr)
Asphalt Blowing Operation	1.51	6.61
Shingle & roll production line	3.73	16.33
Modified bitumen production line	0.55	2.41
Granule handling	6.12	26.80
Filler handling	0.064*	0.28*
Talc handling	1.82E-4*	7.97E-4*
Sand handling	0.927	4.06

* emissions controlled by dustcollectors.

D.1.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities and their control devices.

Compliance Determination Requirements

D.1.6 Testing Requirements [326 IAC 2-8-5(a)(1), (4)] [326 IAC 2-1.1-11]

During the period between 30 to 36 months after issuance of this permit, the Permittee shall perform the following to demonstrate compliance with Conditions D.1.2 , D.1.3 and D.1.4 for the asphalt blowing line, single & roll and modified bitumen production lines.

(a) PM and PM-10 testing utilizing methods per 40 CFR Part 60 Appendix A, Method 5A for PM and methods, as approved by the Commissioner for PM-10. PM-10 includes filterable and condensible PM-10.

(b) Opacity testing utilizing 40 CFR Part 60 Appendix A, Method 9, to demonstrate compliance with the opacity limitation of Condition D.1.2.

This test shall be repeated at least once every five (5) years from the date of this valid compliance demonstration. Testing shall be conducted in accordance with Section C-Performance Testing.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.1.7 Particulate Matter (PM and PM-10)

In order to comply with conditions D.1.2, D.1.3 and D.1.4, (1) either of the two (2) afterburners (identified as boiler nos. 1 and 2) for PM and PM-10 control shall be in operation at all times when the asphalt blowing line is in operation, and (2) the dust collectors for PM and PM-10 control shall be in operation at all times when the filler & talc handling operations are in operation.

D.1.8 Afterburner

The afterburner (boiler nos. 1 and 2) for controlling emissions from asphalt blowing line, shall maintain a minimum operating temperature of 1,500ºF or a temperature determined in the most recent compliance stack tests to ensure that the destruction efficiency of 90% or destruction efficiency determined in the most recent compliance stack test is achieved. The temperature of the combustion chamber shall be continuously monitored and recorded by the temperature monitoring instrument whenever the asphalt blowing line is in operation.

D.1.9 Visible Emissions Notations

(a) Visible emission notations of the granule handling, shingle & roll and modified bitumen production lines' stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

Visible emission notations of the afterburner (identified as boiler nos. 1 and 2) for controlling emissions from the asphalt blowing line are covered under section D.2.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.1.10 Record Keeping Requirements

(a) To document compliance with Condition D.1.9, the Permittee shall maintain records of visible emission notations of the granule handling, shingle & roll and modified bitumen production lines' stack exhausts once per shift.

(b) To document compliance with Condition D.1.8, the permittee shall:

(1) Maintain daily records of the exhaust temperature of the afterburner, and

(2) Continuously record the temperature in the combustion zone of the afterburner, identified as boiler nos. 1 and 2, using the temperature monitoring instrument.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

SECTION D.2 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) Two (2) No. 6 fuel oil fired boilers, identified as boiler nos. 1 & 2, each with a maximum heat input capacity of 29.10 MMBtu/hr and installed in 1972, and each exhausting through stack S32. Boiler No. 1 serves as a primary boiler, and boiler No. 2 serves as a backup unit.

(b) One (1) No. 6 fuel oil fired combustion unit, identified as mill oil heater # 2, with a maximum heat input capacity of 2.5 MMBtu/hr, and exhausting through stack S33.

(c) One (1) No. 6 fuel oil fired combustion unit, identified as coating heater, with a maximum heat input capacity of 4.5 MMBtu/hr, and exhausting through stack S34.

(d) One (1) natural gas fired combustion unit, identified as flux heater, with a maximum heat input capacity of 7.5 MMBtu/hr, with a spare unit fired by No. 6 fuel oil (standby), and exhausting through stacks S35 and S36.

(e) One (1) natural gas fired combustion unit, identified as mod-bit hot oil heater, with a maximum heat input capacity of 5.2 MMBtu/hr, using No. 6 fuel as a backup fuel, and exhausting through stack S2.

(f) One (1) natural gas fired combustion unit, identified as filler heater hot oil heater, with a maximum heat input capacity of 6.5 MMBtu/hr, using No. 6 fuel oil as a backup fuel, and exhausting through stack S4.

(g) One (1) natural gas fired combustion unit, identified as liquid asphalt storage heater, with a maximum heat input capacity of 2.5 MMBtu/hr, using No. 2 fuel oil as a backup fuel, and exhausting through stack S1.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-3]

Pursuant to 326 IAC 6-2-3 (a) (Particulate emission limitations for sources of indirect heating) emission limitations for facilities specified in 326 IAC 6-2-1 (b)), particulate emissions from boiler nos. 1 and 2, which were constructed after June 8, 1972, shall be limited to 0.6 pounds of particulate matter per million British thermal units heat input.

D.2.2 Sulfur Dioxide (SO_2) [326 IAC 7-1.1-1] [326 IAC 7-2-1]

(a) Pursuant to 326 IAC 7-1.1-2, sulfur dioxide emissions from the boilers (boiler Nos. 1 and 2) and flux heater using No. 6 fuel oil shall not exceed 1.6 pounds per million BTU heat input when using No. 6 fuel oil. This equates to a fuel oil sulfur content limit of 1.7%.

Pursuant to 326 IAC 7-1.1-2, this sulfur dioxide limit applies at all times including periods of startup, shutdown, and malfunction. Pursuant to 326 IAC 7-2-1, compliance shall be demonstrated on a calendar month average.

D.2.3 No. 6 Fuel Usage [326 IAC 2-8]

(a) The source shall limit No. 6 residual fuel oil usage for the two (2) boilers (boiler nos. 1 and 2), mill oil heater # 2, coating heater, flux heater, mod-bit hot oil heater, and filler heater hot oil heater to 1,504,800 gallons per twelve (12) consecutive month period, rolled on monthly basis.

(b) Sulfur content of No. 6 residual fuel oil shall not exceed 0.8% by wieght.

D.2.4 No. 2 Fuel Usage [326 IAC 2-8]

(a) The source shall limit No. 2 distillate fuel oil usage for the liquid asphalt storage heater, and mill oil heater # 1 to 127,200 gallons per twelve (12) consecutive month period, rolled on monthly basis.

(b) Sulfur content of No. 2 distillate fuel oil shall not exceed 0.47% by weight.

D.2.5 Preventive Maintenance Plan [326 IAC 2-8-4(9)]

A Preventive Maintenance Plan, in accordance with Section B - Preventive Maintenance Plan, of this permit, is required for these facilities.

Compliance Determination Requirements

D.2.6 Sulfur Dioxide Emissions and Sulfur Content

Compliance shall be determined utilizing one of the following options.

(a) Pursuant to 326 IAC 3-7-4, the Permittee shall demonstrate that the sulfur dioxide emissions do not exceed 0.5 and 1.6 pounds per million Btu heat input for No. 2 fuel oil and No. 6 fuel oil, respectively, and sulfur content shall not exceed 0.47 and 0.8% for No. 2 fuel oil and No. 6 fuel oil, respectively, by:

(1) Providing vendor analysis of fuel delivered, if accompanied by a vendor certification; or

(2) Analyzing the oil sample to determine the sulfur content of the oil via the procedures in 40 CFR 60, Appendix A, Method 19.

(A) Oil samples may be collected from the fuel tank immediately after the fuel tank is filled and before any oil is combusted; and

(B) If a partially empty fuel tank is refilled, a new sample and analysis would be required upon filling.

(b) Compliance may also be determined by conducting a stack test for sulfur dioxide emissions from the listed units, using 40 CFR 60, Appendix A, Method 6 in accordance with the procedures in 326 IAC 3-6.

A determination of noncompliance pursuant to any of the methods specified in (a) or (b) above shall not be refuted by evidence of compliance pursuant to the other method.

Compliance Monitoring Requirements [326 IAC 2-8-4] [326 IAC 2-8-5(a)(1)]

D.2.7 Visible Emissions Notations

(a) Visible emission notations for the boiler nos. 1 and 2, controlling asphalt blowing line (listed in Section D.1) stack exhaust (S32) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere and while combusting fuel oil. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Preparation, Implementation, Records, and Reports, shall be considered a violation of this permit.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.2.8 Record Keeping Requirements

(a) To document compliance with Conditions D.2.2, D.2.3 and D.2.4, the Permittee shall maintain records in accordance with (1) through (8) below. Records maintained for (1) through (8) shall be taken monthly and shall be complete and sufficient to establish compliance with the SO_2 emission limits established in Conditions D.2.2, D.2.3, D.2.4.

(1) Calendar dates covered in the compliance determination period;

(2) Monthly fuel usages;

(3) Average heating value of the fuels;

(4) Average sulfur dioxide (SO2) emission rate for each fuel oil type combusted per month (pounds SO2 per million Btu)

(5) A certification, signed by the owner or operator, that the records of the fuel supplier certifications represent all of the fuel combusted during the period; and

If the fuel supplier certification is used to demonstrate compliance the following, as a minimum, shall be maintained:

(6) Fuel supplier certifications;

(7) The name of the fuel supplier; and

(8) A statement from the fuel supplier that certifies the sulfur content of the fuel oil.

The Permittee shall retain records of all recording/monitoring data and support information for a period of five (5) years, or longer if specified elsewhere in this permit, from the date of the monitoring sample, measurement, or report. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by this permit.

(b) To document compliance with Condition D.2.7, the Permittee shall maintain records of visible emission notations of the boiler nos. 1 and 2 stack exhaust while combusting fuel oil.

(c) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.2.9 Reporting Requirements

A quarterly summary of the information to document compliance with Conditions D.2.3 and D.2.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1-1(1).

SECTION D.3 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]:

(a) One (1) bulk asphalt flux main storage tank, identified as T-1, installed in 1972 with maximum storage capacity of 1,000,000 gallons of asphalt.

(b) Five (5) storage tanks, identified as T-3 (flux preheat tank), T-4 (SBS/AC-5/weather watch), T-5 (AC-5 asphalt), T-6 (coating asphalt) and T-7 (coating asphalt), each installed in 1972 and each with a maximum storage capacity of 30,000 gallons of asphalt.

(c) Two (2) storage tanks, identified as T-20 (liquid APP plasticizer) and T-18 (holding tank package asphalt), installed in 1986 and 1985, respectively, and each with maximum storage capacity of 30,000 gallons.

(d) Two (2) storage tanks, identified as T-8 (self-seal asphalt) and T-16 (self-seal asphalt slateline), each installed in 1989 and each with a maximum storage capacity of 14,000 gallons.

(e) Three (3) storage tanks, identified as T-9 (steep asphalt), T-17 (cooling package asphalt) and M-5 (mod-bit mixed material-hold tank), each installed in 1977, 1985, 1985 and with maximum capacity of 8,000, 12,000 and 6,500 gallons, respectively.

(f) One (1) No. 6 fuel oil storage tank, identified as TK-22, installed in 1990 with maximum storage capacity of 38,000 gallons.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Record Keeping and Reporting Requirement [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.3.1 Record Keeping Requirements [326 IAC 12] [40 CFR 60.110b, Subpart Kb]

Pursuant to the New Source Performance Standard (NSPS), 326 IAC12 and 40 CFR Part 60.116 Subpart Kb, the Permittee shall maintain permanent accessible records at the source for the life of volatile liquid storage tank as follows:

(a) the dimension of each storage vessel (tanks T-8, T-16, T-17, T-18, T-20 and TK-22);

(b) an analysis showing the capacity of each storage vessel (tanks T-8, T-16, T-17, T-18, T-20 and TK-22); and

(c) the true vapor pressure of the VOC stored, indicating that the maximum true vapor pressure of each VOC stored is less than 15.0 kPa (tanks T-18, T-20 and TK-22 only).

(d) All records shall be maintained in accordance with Section C - General Record Keeping Requirements, of this permit.

D.3.2 Particulate Matter (PM) [40 CFR Part 60.470, Subpart UU] [326 IAC 12]

Pursuant to New Source Performance Standard, 326 IAC 12, 40 CFR 60.472, no gases shall be discharged from the storage tanks (ID Nos.T-8, T-16, T-17, T-18, T-20 and M-5) in to the atmosphere with opacity greater than 0 percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing.

SECTION D.4 FACILITY OPERATION CONDITIONS

Facility Description [326 IAC 2-8-4(10)]
The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) One (1) No. 2 fuel oil fired combustion unit, identified as mill oil heater # 1, with a maximum heat input capacity of 1.5 MMBtu/hr, and exhausting through stack S31.

(b) One (1) propane fired combustion unit, identified as mat heater, with a rated capacity of 1.0 MMBtu/hr.

(c) One (1) propane fired combustion unit, identified as flame bar, with a rated capacity fo 1.0 MMBtu/hr.

(d) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 10,500 gallons.

(The information describing the process contained in this facility description box is descriptive information and does not constitute enforceable conditions.)

Emission Limitations and Standards [326 IAC 2-8-4(1)]

D.4.1 Volatile Organic Compounds (VOC) [326 IAC 8-4-6, 326 IAC 8-4-9]

Any change or modification which may increase monthly gasoline throughput to 10,500 gallons or more from the gasoline fuel transfer and dispensing operation shall require approval from IDEM, OAQ, prior to making the change.

Record Keeping and Reporting Requirements [326 IAC 2-8-4(3)] [326 IAC 2-8-16]

D.4.2 Record Keeping Requirement

To document compliance with Condition D.4.1, the Permittee shall maintain records of total monthly gasoline throughput at the transfer and dispensing station. These records shall be maintained in accordance with Section C - General Record Keeping Requirements.

There are no specific reporting requirements applicable to these facilities.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE BRANCH

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP) CERTIFICATION

Source Name: Building Materials Manufacturing Corporation
Source Address: 901 Givens Road, Mt. Vernon, Indiana 47620
Mailing Address: 901 Givens Road, Mt. Vernon, Indiana 47620
FESOP No.: F129-14097-00011

This certification shall be included when submitting monitoring, testing reports/results or other documents as required by this permit.

Please check what document is being certified:

9 Annual Compliance Certification Letter

9 Test Result (specify) _____

9 Report (specify) _____

9 Notification (specify) _____

9 Affidavit (specify) _____

9 Other (specify) _____

I certify that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

Signature:

Printed Name:

Title/Position:

Phone:

Date:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY

COMPLIANCE BRANCH
P.O. Box 6015
100 North Senate Avenue
Indianapolis, Indiana 46206-6015
Phone: 317-233-5674
Fax: 317-233-5967

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
EMERGENCY OCCURRENCE REPORT

Source Name: Building Materials Manufacturing Corporation
Source Address: 901 Givens Road, Mt. Vernon, Indiana 47620
Mailing Address: 901 Givens Road, Mt. Vernon, Indiana 47620
FESOP No.: F129-14097-00011

This form consists of 2 pages **Page 1 of 2**

9 This is an emergency as defined in 326 IAC 2-7-1(12)
- The Permittee must notify the Office of Air Quality (OAQ), within four (**4**) business hours (1-800-451-6027 or 317-233-5674, ask for Compliance Section); and
- The Permittee must submit notice in writing or by facsimile within two (**2**) days (Facsimile Number: 317-233-5967), and follow the other requirements of 326 IAC 2-7-16

If any of the following are not applicable, mark N/A

Facility/Equipment/Operation:
Control Equipment:
Permit Condition or Operation Limitation in Permit:
Description of the Emergency:
Describe the cause of the Emergency:

If any of the following are not applicable, mark N/A **Page 2 of 2**

Date/Time Emergency started:
Date/Time Emergency was corrected:
Was the facility being properly operated at the time of the emergency? Y N Describe:
Type of Pollutants Emitted: TSP, PM-10, SO_2, VOC, NO_X, CO, Pb, other:
Estimated amount of pollutant(s) emitted during emergency:
Describe the steps taken to mitigate the problem:
Describe the corrective actions/response steps taken:
Describe the measures taken to minimize emissions:
If applicable, describe the reasons why continued operation of the facilities are necessary to prevent imminent injury to persons, severe damage to equipment, substantial loss of capital investment, or loss of product or raw materials of substantial economic value:

Form Completed by: _____
Title / Position: _____
Date: _____
Phone: _____

A certification is not required for this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Building Materials Manufacturing Corporation
Source Address: 901 Givens Road, Mt. Vernon, Indiana 47620
Mailing Address: 901 Givens Road, Mt. Vernon, Indiana 47620
FESOP No.: F129-14097-00011
Facility: two (2) boilers (boiler No. 1 and 2), mill oil heater # 2, coating heater, flux heater, mod-bit hot oil heater, and filler heater hot oil heater units
Parameter: SO_2 fuel oil consumption limitations
Limit: The usage of No. 6 fuel oil shall be limited to 1,504,800 gallons per twelve (12) consecutive month period. Sulfur content in No. 6 fuel oil shall be limited to 0.8%.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	No. 6 Fuel Oil Usage This Month	No. 6 Fuel Oil Usage Previous 11 Months	No. 6 fuel Oil Usage 12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

FESOP Quarterly Report

Source Name: Building Materials Manufacturing Corporation
Source Address: 901 Givens Road, Mt. Vernon, Indiana 47620
Mailing Address: 901 Givens Road, Mt. Vernon, Indiana 47620
FESOP No.: F129-14097-00011
Facility: liquid asphalt storage heater, and mill oil heater # 1
Parameter: SO_2 fuel oil consumption limitations
Limit: The usage of No. 2 fuel oil shall be limited to 127,200 gallons per twelve (12) consecutive month period. Sulfur content in No. 2 fuel oil shall be limited to 0.47%.

YEAR: _____

Month	Column 1	Column 2	Column 1 + Column 2
	No. 2 Fuel Oil Usage This Month	No. 2 Fuel Oil Usage Previous 11 Months	No. 2 fuel Oil Usage 12 Month Total
Month 1			
Month 2			
Month 3			

9 No deviation occurred in this quarter.

9 Deviation/s occurred in this quarter.
Deviation has been reported on: _____

Submitted by: _____
Title / Position: _____
Signature: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR QUALITY
COMPLIANCE DATA SECTION

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT (FESOP)
QUARTERLY DEVIATION AND COMPLIANCE MONITORING REPORT

Source Name: Building Materials Manufacturing Corporation
Source Address: 901 Givens Road, Mt. Vernon, Indiana 47620
Mailing Address: 901 Givens Road, Mt. Vernon, Indiana 47620
FESOP No.: F129-14097-00011

Months: _____ to _____ Year: _____

This report is an affirmation that the source has met all the requirements stated in this permit. This report shall be submitted quarterly based on a calendar year. Any deviation from the requirements, the date(s) of each deviation, the probable cause of the deviation, and the response steps taken must be reported. Deviations that are required to be reported by an applicable requirement shall be reported according to the schedule stated in the applicable requirement and do not need to be included in this report. Additional pages may be attached if necessary. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Page 2 of 2

Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	
Permit Requirement (specify permit condition #)	
Date of Deviation:	**Duration of Deviation:**
Number of Deviations:	
Probable Cause of Deviation:	
Response Steps Taken:	

Form Completed By: ______________________________

Title/Position: ______________________________

Date: ______________________________

Phone: ______________________________

Attach a signed certification to complete this report.

Indiana Department of Environmental Management
Office of Air Quality

Addendum to the
Technical Support Document for a Federally Enforceable State Operating Permit (FESOP) Renewal

Source Name: Building Materials Manufacturing Corporation
Source Location: 901 Givens Road, Mt. Vernon, IN 47620
County: Posey
SIC Code: 2952
Operation Permit No.: F129-14097-00011
Permit Reviewer: Adeel Yousuf/EVP

On February 13, 2002, the Office of Air Quality (OAQ) had a notice published in the Mount Vernon Democrat in Mt. Vernon, Indiana, stating that Building Materials Manufacturing Corporation had applied for a Federally Enforceable State Operating Permit (FESOP) Renewal relating to the operation of an asphalt roofing manufacturing plant. The notice also stated that OAQ proposed to issue a FESOP Renewal for this operation and provided information on how the public could review the proposed FESOP Renewal and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this FESOP Renewal should be issued as proposed.

On March 12, 2002, Fred Bright of Building Materials Manufacturing Corporation submitted a comment on the proposed FESOP renewal permit. The summary of the comments and corresponding responses is as follows (bolded language has been added and the language with a line through it has been deleted):

Comment 1

General – please revise the Source name to: Building Materials Manufacturing Corporation, and change these name references throughout the permit. This information was transmitted to IDEM in 1999. The plant's NPDES was revised during the last renewal effort.

Response 1

IDEM, OAQ has noted the name change and the permit has been revised to reflect the correct source name. Source name has been corrected on the title page, FESOP certification, quarterly reports, emergency report, quarterly deviation and compliance monitoring forms.

Comment 2

Section D.2.9 – Reporting Requirements
"*A quarterly summary of the information to document compliance with Conditions D.2.3 and D.2.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1-1(1)*."

The referenced condition D.2.3 addresses the permitted use of No. 6 fuel oil.

The No. 6 fuel oil is provided by a local fuel oil supplier. At the end of the quarter, the supplier is requested to provide us with documentation verifying the amount of oil provided to the plant during the past quarter and the oil sulfur content. On occasions, it has been impossible to get the oil supplier to provide this information in a timely manner and we have the potential to exceed the required 30-day reporting requirement. This discrepancy was noted doing a recent IDEM inspection and we were instructed to submit a request for an increase in this submittal time. We hereby formally request an increase in the submittal time for the No. 6 fuel oil Reporting Requirement.

We would like to request that the certification submittal requirement be extended from thirty (30) days to forty-five (45) days.

Response 2

A quarterly Report is required in 30 days to make a compliance determination. The Office of Air Quality feels that if the quarterly reporting is delayed, a problem would not be detected soon enough and would lead to a deviation from the permit requirements. There will be no changes to this condition in the final permit due to this comment.

D.2.9 Reporting Requirements

~~(a)~~ A quarterly summary of the information to document compliance with Conditions D.2.3 and D.2.4 shall be submitted to the address listed in Section C - General Reporting Requirements, of this permit, using the reporting forms located at the end of this permit, or their equivalent, within thirty (30) days after the end of the quarter being reported. The report submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1-1(1).

Upon further review, the OAQ has decided to make the following changes to the FESOP Renewal. Bolded language has been added and the language with a line through it has been deleted.

1. The name of the condition has been changed to better reflect the contents of the condition.

C.16 Compliance Response Plan - ~~Failure to Take Response Steps~~ **Preparation, Implementation, Records, and Reports** [326 IAC 2-8-4] [326 IAC 2-8-5]

2. Conditions D.1.9 and D.2.7 have been revised to reflect the title change of Condition C.16.

D.1.9 Visible Emissions Notations

(a) Visible emission notations of the granule handling, shingle & roll and modified bitumen production lines' stack exhausts shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

Visible emission notations of the afterburner (identified as boiler nos. 1 and 2) for controlling emissions from the asphalt blowing line are covered under section D.2.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - ~~Failure to Take Response Steps~~ **Preparation, Implementation, Records, and Reports,** shall be considered a violation of this permit.

D.2.7 Visible Emissions Notations

(a) Visible emission notations for the boiler nos. 1 and 2, controlling asphalt blowing line (listed in Section D.1) stack exhaust (S32) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere and while combusting fuel oil. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - ~~Failure to Take Response Steps~~ **Preparation, Implementation, Records, and Reports,** shall be considered a violation of this permit.

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Federally Enforceable State Operating Permit (FESOP) Renewal

Source Background and Description

Source Name: GAF Building Materials
Source Location: 901 Givens Road, Mt. Vernon, IN 47620
County: Posey
SIC Code: 2952
Operation Permit No.: F129-14097-00011
Permit Reviewer: Adeel Yousuf/EVP

The Office of Air Quality (OAQ) has reviewed a FESOP renewal application from GAF Building Materials relating to the operation of an asphalt roofing manufacturing plant. GAF Building Materials was issued FESOP (129-5585-00011) on December 11, 1996.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) One (1) shingles & rolls production line with a maximum production rate of 73 tons per hour, installed in 1972 and exhausting through stacks S5 and S6.

(b) One (1) modified bitumen production line with a maximum production rate of 12.9 tons per hour, installed in 1986 and exhausting through stack S3.

(c) One (1) asphalt blowing operation with a maximum blowing rate of 40,000 pounds per hour with emissions controlled by afterburner (boiler nos. 1 and 2), installed in 1973 and exhausting though stack S32.

(d) Storage and handling of bulk material consisting of the following:
- (1) Shingle and modified bitumen granules handling with maximum throughput of 268,072 tons per year, and exhausting through stacks S13, S14, S27, S28, S29 and S30.
- (2) Shingle and modified bitumen filler handling with maximum throughput of 280,404 tons per year, utilizing dust collectors for particulate matter control, and exhausting through stacks S9, S19, S20, S21, S22, S23 and S24.
- (3) Talc handling with maximum throughput of 801 tons per year, utilizing dust collectors for particulate matter control, and exhausting through stacks S18 and S25.
- (4) Single and modified bitumen sand handling with maximum throughput of 40,593 tons per year, and exhausting through stacks S15, S17 and S26.

(e) Two (2) No. 6 fuel oil fired boilers, identified as boiler nos. 1 & 2, each with a maximum heat input capacity of 29.14 MMBtu/hr and installed in 1972, and each exhausting through stack S32. Boiler No. 1 serves as a primary boiler, and boiler No. 2 serves as a backup unit.

(f) One (1) No. 6 fuel oil fired combustion unit, identified as mill oil heater # 2, with a maximum heat input capacity of 2.5 MMBtu/hr, and exhausting through stack S33.

(g) One (1) No. 6 fuel oil fired combustion unit, identified as coating heater, with a maximum heat input capacity of 4.5 MMBtu/hr, and exhausting through stack S34.

(h) One (1) natural gas fired combustion unit, identified as flux heater, with a maximum heat input capacity of 7.5 MMBtu/hr, with a spare unit fired by No. 6 fuel oil (standby), and exhausting through stacks S35 and S36.

(i) One (1) natural gas fired combustion unit, identified as mod-bit hot oil heater, with a maximum heat input capacity of 5.2 MMBtu/hr, using No. 6 fuel as a backup fuel, and exhausting through stack S2.

(j) One (1) natural gas fired combustion unit, identified as filler heater hot oil heater, with a maximum heat input capacity of 6.5 MMBtu/hr, using No. 6 fuel oil as a backup fuel, and exhausting through stack S4.

(k) One (1) natural gas fired combustion unit, identified as liquid asphalt storage heater, with a maximum heat input capacity of 2.5 MMBtu/hr, using No. 2 fuel oil as a backup fuel, and exhausting through stack S1.

(l) One (1) bulk asphalt flux main storage tank, identified as T-1, installed in 1972 with maximum storage capacity of 1,000,000 gallons of asphalt.

(m) Five (5) storage tanks, identified as T-3 (flux preheat tank), T-4 (SBS/AC-5/weather watch), T-5 (AC-5 asphalt), T-6 (coating asphalt) and T-7 (coating asphalt), each installed in 1972 and each with a maximum storage capacity of 30,000 gallons of asphalt.

(n) Two (2) storage tanks, identified as T-20 (liquid APP plasticizer) and T-18 (holding tank package asphalt), installed in 1986 and 1985, respectively, and each with maximum storage capacity of 30,000 gallons.

(o) Two (2) storage tanks, identified as T-8 (self-seal asphalt) and T-16 (self-seal asphalt slateline), each installed in 1989 and each with a maximum storage capacity of 14,000 gallons.

(p) Three (3) storage tanks, identified as T-9 (steep asphalt), T-17 (cooling package asphalt) and M-5 (mod-bit mixed material-hold tank), each installed in 1977, 1985, 1985 and with maximum capacity of 8,000, 12,000 and 6,500 gallons, respectively.

(q) One (1) No. 6 fuel oil storage tank, identified as TK-22, installed in 1990 with maximum storage capacity of 38,000 gallons.

Insignificant Activities

The source also consists of the following insignificant activities, as defined in 326 IAC 2-7-1(21):

(a) One (1) No. 2 fuel oil fired combustion unit, identified as mill oil heater # 1, with a maximum heat input capacity of 1.5 MMBtu/hr, and exhausting through stack S31.

(b) One (1) propane fired combustion unit, identified as mat heater, with a rated capacity of 1.0 MMBtu/hr.

(c) One (1) propane fired combustion unit, identified as flame bar, with a rated capacity fo 1.0 MMBtu/hr.

(d) A petroleum fuel, other than gasoline, dispensing facility having a storage capacity less than or equal to 10,500 gallons, and dispensing less than or equal to 10,500 gallons.

Existing Approvals

(a) FESOP 129-5585-00011, issued on December 11, 1996.

All conditions from previous approvals were incorporated into this FESOP except the following:

FESOP 129-5585-00011, issued on December 11, 1996.

(a) Condition:

D.2.6 Monitoring 40 CFR Part 60, subpart UU

That pursuant to 326 IAC 12 and 40 CFR 60.470-60.474, subpart UU, the temperature of the gas at the inlet of the control device shall be continuously monitored and recorded. The temperature monitoring instrument shall have an accuracy of + or - 15 degree centigrade over its range.

Reason not incorporated:
Condition D.2.6 contained a monitoring requirement for a control device (Electrostatic precipitator) for the modified bitumen production line. These monitoring requirements are no longer applicable as the control device Electrostatic precipitator is no longer in operation at the source.

FESOP 129-5585-00011, issued on December 11, 1996, permitted a modified bitumen production line controlled by an electrostatic precipitator (ESP) for PM, PM-10 and VOC emissions control. During a site inspection in May of 1999, IDEM personnel recorded that the electrostatic precipitator associated with the modified bitumen production line had been removed and the permit amendment had not been obtained to reflect this condition. The ESP originally installed in 1976 was an integral component of a piece of emission control equipment that included an exhaust fan. The precipitator ceased operation in the early 1980's. Due to an electrical fire, the internals were removed from the ESP, leaving only the exhaust blower operational and the outer housing. This was the condition of the ESP when it was commissioned for the mod-bit line asphalt fume removal and when the FESOP permit was issued in December of 1996. A stack test was conducted in November of 1988 and monitored by IDEM. The test results demonstrated compliance with the emission limits allowed in the permit. The ESP exists in same condition today as it existed in 1988. During this FESOP renewal process, the emission factor from 1988 stack test is used to evaluate the emissions from mod-bit line. The ESP is not needed to control emissions from the modified bitumen production line as the uncontrolled potential PM emissions from both the shingles and modified bitumen production lines combined are less than the 40 CFR 60 Subpart UU limit of 0.4 kg/Mg. The source also requested to remove ESP from the permit as a control device for mod-bit line.

(b) Conditions:
D.4.3 Daily Visible Emissions Notations and D.4.5 Dust Collector Operational Parameters.

Reason not incorporated:
Conditions D.4.3 and D.4.5 were included in original FESOP as part of the compliance monitoring for the storage and handling of bulk materials. These compliance monitoring conditions are not applicable to filler, talc and sand handling operations. Compliance monitoring is not applicable to filler and talc handling operations because each operation utilizes a control device (dust collectors) for PM control and has an allowable PM emission rate less than 10 pounds per hour. The sand handling operation does not have a control device and actual PM emission are less than 25 tons per year, thus compliance monitoring is not applicable. However, compliance monitoring does apply to the granule handling operation because there is no control device and the actual PM emissions are greater than 25 tons per year.

(c) Condition:
D.2.3 Particulate Matter 40 CFR Part 60, subpart UU
That pursuant to 326 IAC 12 and 40 CFR 60.470 - 60.474, Subpart UU, no gases shall be discharged from the above stated facilities into the atmosphere, which
(a) contain particulate matter in excess of 0.4 kilograms per megagram of saturated felt or smooth-surfaced roll roofing produced;
(b) with opacity greater than 20%.

Reason not incorporated:
Condition D.2.3 in the original FESOP applied to both shingles & roll and modified bitumen production lines. It was determined that the shingles & roll production line was constructed in 1972 and has not been modified since then. Based on the rule applicability date of November 18, 1980, the requirements of subpart UU are not applicable to the shingles & roll production line. However, modified bitumen production line was constructed in 1986 and subpart UU requirements apply to the mod-bit line.

(d) Condition:
D.3.2 Particulate Matter 40 CFR Part 60, subpart UU
That pursuant to 326 IAC 12 and 40 CFR 60.470 - 60.474, Subpart UU, no gases shall be discharged from the above stated facilities into the atmosphere, which
(a) contain particulate matter in excess of 0.6 kilograms per megagram of asphalt charged to the still during blowing without a catalyst;
(b) with opacity greater than 0% unless an opacity limit for the blowing still when fuel oil is used to fire the afterburner has been established by the administrator with the procedures in 40 CFR Part 60.674.

Reason not incorporated:
It was determined that the asphalt blowing line was constructed in 1973 and has never been modified since then. Based on the rule applicability date of November 18, 1980, the requirements of subpart UU are not applicable to the asphalt blowing line.

Enforcement Issue

(a) IDEM is aware that the control device electrostatic precipitator for the modified-bitumen line is not functioning properly as listed in FESOP 129-5585-00011 and source failed to notify IDEM, OAQ regarding this condition. Thus the source is in violation of the permit condition.

(b) IDEM is reviewing this matter and has taken appropriate action. The compliance schedule in this proposed permit will satisfy the requirements of the above stated requirement.

Recommendation

The staff recommends to the Commissioner that the FESOP Renewal be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An administratively complete FESOP Renewal application for the purposes of this review was received on March 8, 2001. Additional information was received on October 17, 2001.

There was no notice of completeness letter mailed to the source.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (twenty five (25) pages).

Unrestricted Potential Emissions

This table reflects the unrestricted potential emissions of the source, excluding the emission limits that were contained in the previous FESOP.

Pollutant	Unrestricted Potential Emissions (tons/yr)
PM	192.81
PM-10	169.12
SO_2	318.14
VOC	39.53
CO	17.93
NO_x	148.88

Note: For the purpose of determining Title V applicability for particulates, PM-10, not PM, is the regulated pollutant in consideration.

HAP's *	Unrestricted Potential Emissions (tons/yr)
Formaldehyde	1.16
Toluene	1.09
Naphthalene	0.24
Hexane	0.51
Nickel	0.49
TOTAL	4.42

* Five worst HAPs are listed above.

(a) The potential to emit (as defined in 326 IAC 2-1.1-1(16)) of PM, PM-10, SO_2 and NOx are equal to or greater than 100 tons per year. Therefore, the source is subject to the provisions of 326 IAC 2-7.

(b) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive emissions are not counted toward determination of PSD and Emission Offset applicability.

Potential to Emit After Issuance

The source, issued a FESOP on December 11, 1996, has opted to remain a FESOP source, rather than apply for a Part 70 Operating Permit. The table below summarizes the potential to emit, reflecting all limits, of the emission units. Any control equipment is considered enforceable only after issuance of this Federally Enforceable State Operating Permit and only to the extent that the effect of the control equipment is made practically enforceable in the permit. Since the source has not constructed any new emission units, the source's potential to emit is based on the emission units included in the original FESOP. (F129-5585-00011; issued on December 11, 1996).

	Potential to Emit After Issuance (tons/year)						
Process/emission unit	PM	PM-10	SO_2	VOC	CO	NO_X	HAPs
Shingles and Roll Production Line	22.70	16.35	0.00	29.10	0.00	0.00	0.00
Modified Bitumen Production Line	3.33	2.40	0.00	4.43	0.00	0.00	4.24 (total) 1.16 (single)
Asphalt Blowing Line	7.10	6.60	0.00	1.49	0.00	0.00	0.00
Material handling and storage	31.21	31.15	0.00	0.00	0.00	0.00	0.00
Boiler Nos. 1 and 2, heaters (mill oil # 2, coating, flux, mod-bit hot oil), (burning No. 6 fuel oil)	9.30	5.80	94.50	0.85	3.76	41.40	negl.
Heaters (mill oil # 1, liquid asphalt storage heater), (burning No. 2 fuel oil)	0.10	0.10	4.20	negl.	0.30	1.30	negl.
Natural gas combustion	0.26	0.65	0.04	0.59	8.03	9.48	0.17 (total) 0.16 (single)
Insignificant Activities	0.04	0.04	0.00	0.05	0.18	1.30	0.00
Total PTE After Issuance	74.04	63.09	98.74	36.51	12.27	53.48	4.42 (total) 1.16 (single)

County Attainment Status

The source is located in Posey County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Posey County has been designated as attainment or unclassifiable for ozone.

Federal Rule Applicability

There are no new federal rules applicable to the source during this FESOP renewal review process. The applicability determination that follows is based on that conducted for the original FESOP F129-5585-00011, issued on December 11, 1996.

(a) Two (2) boilers (No. 1 and No. 2) constructed in 1972, each rated at 29.14 MMBtu per hour, are not subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.40c, Subpart Dc) because both were constructed prior to the rule applicability date of June 9, 1989.

(b) (1) Storage tanks (ID Nos. T-1, T-3, T-4, T-5, T-6 and T-7), all constructed in 1972, are not subject to the requirements of the New Source Performance Standards, 326 IAC 12, (40 CFR 60.110-112(a), Subpart K), because the tanks were constructed before the rule applicability date of June 11, 1973.

(2) Storage tank T-9, constructed in 1977, is not subject to the requirements of the New Source Performance Standards, 326 IAC 12, (40 CFR 60.110-112(a), Subpart K), because the tank T-9 has storage capacity less than 40,000 gallons.

(3) Storage tanks (ID Nos.T-8, T-16, T-17) all constructed after the rule applicability date of July 23, 1984, are subject to the New Source Performance Standards, 326 IAC 12, (40 CFR Part 60.110, Subpart Kb). Each tank has a capacity of greater than 40 cubic meters (m^3) (10,567 gallons) and less than 75 m^3 (19,813 gallons), therefore, pursuant to 40 CFR 60.110b(b), these tanks are exempt from all other provisions of this Subpart except 40 CFR 60.116b, which requires that permanent records be maintained showing dimensions and an analysis of the capacities of each tank.

(4) Storage tanks (ID Nos. T-20, T-18, TK-22) all constructed after the rule applicability date of July 23, 1984, are subject to the New Source Performance Standards, 326 IAC 12, (40 CFR Part 60.110, Subpart Kb). Each tank has a capacity of greater than 75 m^3 (19,813 gallons) but less than 151 m^3 (39,890 gallons) and maximum true vapor pressures of less than 15.0 kPa. Therefore, pursuant to 40 CFR 60.110b(c), these tanks are exempt from all other provisions of this Subpart except 40 CFR 60.116b, which requires that records be maintained showing dimensions and analysis of capacity of the tanks and showing the true vapor pressure of the stored VOC, to be less than 15.0 kPa.

(5) Storage tank M-5, constructed in 1985, is not subject to the requirements of the New Source Performance Standards, 326 IAC 12, (40 CFR 60.110, Subpart Kb), because the tank M-5 has storage capacity less than 40 cubic meters (m^3) (10,567 gallons).

(c) (1) One (1) modified bitumen production line is subject to the New Source Performance Standard, 326 IAC 12, (40 CFR 60.470, Subpart UU because it was constructed after the rule applicability date of November 18, 1980. This rule requires the particulate emissions from:

(A) the modified bitumen production line to be limited to 0.4 kilogram/megagram and the opacity shall be limited to twenty percent (20%):

Compliance with the rule:
The modified bitumen production line meet the PM emission limitation of 0.4 kilograms per megagram of saturated felt or smooth-surfaced roll roofing produced of this subpart. The emission factor of 0.0294 kilograms per megagram is less than 0.4 kilograms per megagram and therefore the modified bitumen line complies with the PM emission limit of this NSPS. (See Appendix A, pages 22 and 23 for compliance calculations)

(2) The asphalt blowing and shingles & roll production lines are not subject to the New Source Performance Standard, 326 IAC 12, 40 CFR 60.470, Subpart UU, because they were constructed in 1972 and 1973, respectively, before the rule applicability date of November 18, 1980.

(3) Storage tanks (ID Nos.T-8, T-16, T-17, T-18, T-20 and M-5) all constructed after the rule applicability date of November 18, 1980, are subject to the New Source Performance Standards, 326 IAC 12, 40 CFR 60.470, Subpart UU. Pursuant to 40 CFR 60.472(c), no gases shall be discharged from the above stated storage tanks in to the atmosphere with opacity greater than 0 percent, except for one consecutive 15-minute period in any 24-hour period when the transfer lines are being blown for clearing.

(4) Storage tanks (ID Nos. T-1, T-3, T-4, T-5, T-6, T-7 and T-9), all constructed in 1972, are not subject to the requirements of the New Source Performance Standards, 326 IAC 12, 40 CFR 60.470, Subpart UU, because the tanks were constructed before the rule applicability date of November 18, 1980.

(5) Storage and handling of bulk material handling operations including granules, filler, talc and sand handling, all constructed after the rule applicability date of November 18, 1980, are subject to the New Source Performance Standards, 326 IAC 12, 40 CFR 60.470, Subpart UU. Pursuant to 40 CFR 60.472(d), no gases shall be discharged from the above stated facilities into the atmosphere with opacity greater than 1 percent.

(d) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 61) applicable to this source.

State Rule Applicability - Entire Source

There are no new state rules applicable to the entire source during this FESOP renewal review process. The applicability determination that follows is based on that conducted from the original FESOP F129-5036-00021, issued on December 11, 1996.

326 IAC 2-2 (Prevention of Significant Deterioration)

This source is not subject to the requirements of this rule. This source was constructed prior to the rule applicability date of August 7, 1980, is not one of the 28 listed source categories and no major modifications were done, therefore, it is not subject to the requirements of the rule. Therefore, the requirements of 326 IAC 2-2 do not apply.

326 IAC 2-8-4 (FESOP)

This source is subject to 326 IAC 2-8-4 (FESOP). Pursuant to this rule, the source shall limit facility PM-10 and SO_2 emissions as follows:

(a) Either of the two (2) afterburners (with control efficiency of 90% for PM, PM-10 and VOC) identified as boiler No. 1 and 2, controlling the asphalt blowing line shall be in operation at all times the asphalt blowstill is in operation. The PM10 emissions from the blowstill shall not exceed 1.50 pounds per hour, which is equivalent to 6.57 tons per year.

(b) The dust collectors controlling the modified bitumen and shingle & roll filler handling shall be in operation at all times the facilities vented to the dust collectors are in operation and the PM10 emissions from this operation shall not exceed 0.064 pounds per hour, which is equivalent to 0.28 tons per year.

(c) The consumption of No. 6 fuel oil from boilers, heaters and back-up fuels, shall be limited to 1,504,800 gallons per twelve (12) consecutive month period, based on maximum sulfur content of 0.8 percent. Limited potential SO_2 emissions from the aforementioned No. 6 fuel oil limit equal a limited SO_2 emission rate of 94.50 tons per year.

(d) The consumption of No. 2 fuel oil from heaters and back-up fuels, shall be limited to 127,200 gallons per twelve (12) consecutive month period, based on maximum sulfur content of 0.47 percent. Limited potential SO_2 emissions from the aforementioned No. 2 fuel oil limit equal a limited SO_2 emission rate of 4.20 tons per year.

Note: Limiting the fuel usage will automatically limit sourcewide NOx emissions to less than 100 TPY.

Compliance with these limits shall limit the sourcewide potential to emit PM10, SO_2 and NOx to less than 100 tons per twelve (12) consecutive month period and will render 326 IAC 2-7 (Part 70 Permit Program) not applicable.

326 IAC 2-6 (Emission Reporting)

This source is located in Posey County which is not one of the specifically listed counties, nor does the source have the potential to emit CO, VOC, NOx, PM10 (including fugitive emissions), or SO_2 in amounts at or exceeding 100 tons per year. The potential to emit of all other regulated pollutants is less than 100 tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Visible Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 2-4.1-1 (New Source Toxics Control)

The potential single and combination of HAPs emissions from the entire source are less than ten (10) and twenty five (25) tons per year, respectively. Therefore, the requirements of this rule do not apply to this source.

State Rule Applicability - Individual Facilities

There are no new state rules determined as applicable to individual facilities at this source during this FESOP renewal review process. The applicability determination that follows is based on that conducted for the original FESOP F129-5585-00011, issued December 11, 1996:

326 IAC 6-2-3 (Particulate Emission Limitations for Sources of Indirect Heating)

The two (2) No. 6 fuel oil fired boilers identified as boilers nos. 1 and 2, (both constructed in 1972), both rated at 29.14 MMBtu/hr, are subject to the particulate matter limitations of 326 IAC 6-2-3. Pursuant to this rule, particulate emissions from indirect heating facilities constructed prior to September 21, 1983, shall be limited by the following equation:

$$Pt = \frac{C \times a \times h}{76.5 \times Q^{0.75} \times N^{0.25}}$$

where

C = 50 u/m^3
Pt = emission rate limit (lbs/MMBtu)
Q = total source heat input capacity (MMBtu/hr)
N = number of stacks
a = plume rise factor (0.67)

h = stack height in feet. If a number of stacks of different heights exist, average stack height to represent "N" stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\sum_{i=1}^{N} H_i \times pa_i \times Q}{\sum_{i=1}^{N} pa_i \times Q}$$

where: Pa = the actual controlled emissions rate in lb/MMBtu using the emission factor form AP-42 or stack test data. Stacks constructed after January 1, 1971, shall be credited with GEP stack height only. GEP stack height shall be calculated as specified in 326 IAC 1-7.

For boiler nos. 1 and 2 constructed in 1972 (Q = 58.28 MMBtu/hr):
Pt = $(50*0.67*44.4)/(76.5*58.28^{0.75}*1^{0.25})$ = 0.921 lbs PM/MMBtu

However, pursuant to 326 IAC 6-2-3(e), Pt for indirect heating facilities constructed after June 8, 1972 shall not exceed 0.6 lbs PM/MMBtu, therefore PM emissions combined from both boilers are limited to 0.6 lbs PM/MMBtu.

compliance calculation:
Potential PM emissions = 21.10 tons per year (See Appendix A, page 7)
21.10 TPY x 2000 lb/ton x 1/58.28 (hr/MMBtu) x 1/8760 (yr/hours) = 0.082 lb PM/MMBtu

Potential PM emissions for boiler No.s 1 and 2 (0.082 lbs PM/MMBtu) are less than the allowable 0.6 lbs PM/mmBtu, therefore the boiler Nos. 1 and 2 will comply with the requirements of 326 IAC 6-2-3.

326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations)

(a) The two (2) No. 6 fuel oil fired boilers (boiler Nos. 1 and 2) and flux heater using No. 6 fuel oil are subject to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because each unit has potential to emit of SO_2 greater than 25 tons per year. Pursuant to 326 IAC 7-1.1-2, sulfur dioxide emissions from the aforementioned units using No. 6 fuel oil shall be limited to 1.6 pounds per million BTU heat input each when using No. 6 fuel oil. This equates to a fuel oil sulfur content limit of 1.70%. These facilities shall comply with this rule by limiting No. 6 fuel oil sulfur content to 0.8% or less.

(b) One (1) liquid asphalt storage heater, and mill oil heater # 1 using No. 2 fuel oil are not subject to 326 IAC 7-1.1 (Sulfur Dioxide Emission Limitations) because each unit has potential to emit of SO_2 less than 25 tons per year.

326 IAC 7-2-1 (Sulfur Dioxide Reporting Requirements)

Pursuant to this rule, the source shall submit reports of calendar month average sulfur content, heat content, fuel consumption, and sulfur dioxide emission rate (pounds SO_2 per MMBtu), to the OAQ upon request.

326 IAC 6-3-2 (Process Operations)

The particulate matter (PM) from the emission units listed below shall be limited by the following:

Interpolation of the data for the process weight rate up to sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10 P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 55.0 P^{0.11} - 40$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

The control equipment shall be in operation at all times when each facility is in operation, in order to comply with this limit.

Emission Unit	Process Weight Rate (ton/hr)	Uncontrolled PM Emissions (lb/hr)	Control Efficiency %	Allowable PM Emissions (326 IAC 6-3-2) (lb/hr)	Controlled PM Emissions (lb/hr)
Asphalt Blowing Operation	20	16.20	99%	30.51	1.62
Shingle & roll production line	73	5.18	0%	48.17	5.18
Modified bitumen production line	12.9	0.76	0%	22.74	0.76
Granule handling	30.60	6.12	0%	40.13	6.12
Filler handling	32.0	7.68	99%	40.52	0.077
Talc handling	0.091	2.28E-4	99%	0.82	2.28E-4
Sand handling	4.634	0.927	0%	11.45	0.927

326 IAC 8-1-6 (New Facilities; General Reduction Requirements)

Provisions of 326 IAC 8-1-6 applies to facilities located in any county constructed after January 1, 1980, which are not otherwise regulated by any other provisions of 326 IAC 8, and have potential emissions of 25 tons/yr or greater. All the facilities at the source have potential VOC emissions less than 25 tons/yr except the shingles & roll production line and are therefore not subject to the requirements of 326 IAC 8-1-6. The shingle & roll production line with potential VOC emission greater than 25 tons/yr, is not subject to the requirements of 326 IAC 8-1-6, because the shingle & roll production was constructed before the rule applicability date of January 1, 1980.

326 IAC 8-4-3 (Petroleum Liquid Storage Facilities)

Pursuant to 326 IAC 8-4-1 (Applicability) and 326 IAC 8-4-3 (Petroleum Liquid Storage Facilities), all petroleum liquid storage vessels with capacities greater than one hundred fifty thousand (150,000) liters (39,000 gallons) containing VOC whose true vapor pressure is greater than 10.5 kPa (1.52 psi) shall comply with the requirements for external fixed and floating roof tanks and the specified record keeping and reporting requirements. The storage tanks at the facility (TK-22, T-3, T-4, T-5, T-6, T-7, T-9, T-8, T-20, T-16, T-17, T-18 and M-5) are not subject to the requirements of 326 IAC 8-4-3 since each storage tank's capacity is below the 39,000 gallon threshold for rule applicability. One (1) asphalt flux main storage tank, identified as T-1 with maximum storage capacity of 1,000,000 gallons of asphalt is not subject to the requirements of 326 IAC 8-4-3 since the material stored in this tank has a vapor pressure less than 10.5 kPa (1.52 psi).

The insignificant activity identified as a petroleum fuel, other than gasoline, dispensing facility with storage capacity less than or equal to 10,500 gallons is not subject to the requirements of 326 IAC 8-4-3 since the storage tank is below the 39,000 gallon threshold for rule applicability.

326 IAC 8-6 (Organic Solvent Emission Limitations)

This rule applies to sources commencing operation after October 7, 1974 and prior to January 1, 1980, located anywhere in the state, with potential solvent VOC emissions of 100 tons per year or more, and not regulated by any other provision of Article 8. This source was constructed prior to October 7, 1974, and has potential solvent VOC emissions less than 100 tons per year. Therefore, this rule does not apply to this source.

326 IAC 8-7 (Specific VOC Reduction Requirements for Lake, Porter, Clark and Floyd Counties)

The requirements of this rule apply to stationary sources located in Lake, Porter, Clark and Floyd Counties that emit or have the potential to emit VOCs at levels equal to or greater than 25 tons per year in Lake and Porter Counties; 100 tons per year in Clark and Floyd Counties; and to any coating facility that emits or has the potential to emit 10 tons per year or greater in Lake, Porter, Clark or Floyd County. This source is located in Posey County. Therefore, this rule is not applicable to this source.

326 IAC 8-9 (Volatile Organic Liquid Storage Vessels)

Pursuant to 326 IAC 8-9-1, on and after October 1, 1995 stationary vessels used to store volatile organic liquids (VOL) must comply with the requirement of the rule if located in Clark, Floyd, Lake or Porter Counties. Stationary vessels with capacities less than 39,000 gallons are only subject to the reporting and record keeping requirements of the rule. Stationary storage vessels subject to any provision of 40 CFR Part 60.110b, New Source Performance Standard for Volatile Organic Liquid Storage, are exempt from this rule. The storage tanks (ID Nos. T-1, TK-22, T-3, T-4, T-5, T-6, T-7, T-9, T-8, T-20, T-16, T-17, T-18 and M-5), are not subject to IAC 8-9 because they are stationary vessels that are not located in the specified counties as listed in 326 IAC 8-9-1.

326 IAC 9-1 (Carbon Monoxide Emission Limits)

This source is not a petroleum refining source, a ferrous metal smelter or a refuse incinerator, and therefore, this asphalt shingle manufacturing source is not subject to the requirements of this rule.

Testing Requirements

The following new testing requirements were incorporated into this FESOP:

Source shall conduct compliance tests for shingle & roll production line, modified-bitumen production line and asphalt blowing line with afterburner (boilers nos. 1 and 2) as a control device.

Justification for new testing requirement:
Shingle & roll production lines and asphalt blowing line shall be tested PM and PM-10 to show compliance with 326 IAC 2-8-4 (FESOP).

Modified bitumen production line shall be tested for opacity, PM and PM-10 to show compliance with New Source Performance Standard (40 CFR 60.470, Subpart UU) and 326 IAC 2-8-4 (FESOP).

Notes:
Emission factors submitted by the source for shingle & roll production line are based on AP-42 emission factors with HEAF control for shingle production. The source does not utilize the HEAF unit for emission control for the shingle & roll production line and shall conduct exhaust stack test to show compliance with the emission factors used to calculate potential emissions.
Asphalt blowing line utilizes afterburner (boiler nos. 1 and 2) for PM emission control and shall conduct stack test to demonstrate the control efficiency (90%) used to calculate controlled potential emissions from the asphalt blowing line.

Compliance Requirements

Permits issued under 326 IAC 2-8 are required to ensure that sources can demonstrate compliance with applicable state and federal rules on a more or less continuous basis. All state and federal rules contain compliance provisions, however, these provisions do not always fulfill the requirement for a more or less continuous demonstration. When this occurs IDEM, OAQ, in conjunction with the source, must develop specific conditions to satisfy 326 IAC 2-8-4. As a result, compliance requirements are divided into two sections: Compliance Determination Requirements and Compliance Monitoring Requirements.

Compliance Determination Requirements in Section D of the permit are those conditions that are found more or less directly within state and federal rules and the violation of which serves as grounds for enforcement action. If these conditions are not sufficient to demonstrate continuous compliance, they will be supplemented with Compliance Monitoring Requirements, also Section D of the permit. Unlike Compliance Determination Requirements, failure to meet Compliance Monitoring conditions would serve as a trigger for corrective actions and not grounds for enforcement action. However, a violation in relation to a compliance monitoring condition will arise through a source's failure to take the appropriate corrective actions within a specific time period.

The compliance monitoring requirements applicable to this source are as follows:

All compliance requirements from previous approvals were incorporated into this FESOP except the following:

Reason not incorporated:
Conditions D.4.3 and D.4.5 were included in original FESOP as part of the compliance monitoring for the storage and handling of bulk materials. These compliance monitoring conditions are not applicable to filler, talc and sand handling operations. Compliance monitoring is not applicable to filler and talc handling operations because each operation utilize control device (dust collectors) for PM control and has allowable PM emission rate less than 10 pounds per hour. Sand handling operation does not have a control device and actual PM emission are less than 25 tons per year, thus compliance monitoring is not applicable. However, compliance monitoring does apply to the granule handling operation because there is no control device and the actual PM emissions are greater than 25 tons per year.

1. The two (2) boilers (boiler nos. 1 and 2) have applicable compliance monitoring conditions as specified below:

   (a) Visible emission notations of the boilers stack exhaust shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

   These monitoring conditions are necessary because the two (2) boilers (boiler nos. 1 and 2) must operate properly to ensure compliance with 326 IAC 6-2-4 (Particulate Emission Limitations for Sources of Indirect Heating) and 326 IAC 2-8 (FESOP).

2. The Shingle and modified bitumen granule handling operation has applicable compliance monitoring conditions as specified below:

   (a) Visible emissions notations of the facilities' dust collectors stacks (S13, S14, S27, S28, S29 and S30) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee will record whether emissions are normal or abnormal. For processes operated continuously "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

These monitoring conditions are necessary because the dust collectors for the shingle and modified bitumen granule handling must operate properly to ensure compliance with 326 IAC 12, 40 CFR 60.470, Subpart UU, 326 IAC 6-3-2 and 326 IAC 2-8 (FESOP).

3. The shingle & roll and modified bitumen production lines have applicable compliance monitoring conditions as specified below:

   (a) Visible emission notations of the shingle & roll and modified bitumen production lines' stack exhausts (S6, S5 and S3) shall be performed once per shift during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal. For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time. In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions. A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed. Failure to take response steps in accordance with Section C - Compliance Monitoring Plan - Failure to Take Response Steps, shall be considered a violation of this permit.

   These monitoring conditions are necessary to ensure compliance with 326 IAC 6-3-2 and 326 IAC 2-8 (FESOP).

4. The asphalt blowing operation and its control device (afterburner; boiler nos. 1 and 2) have applicable compliance monitoring conditions as specified below:

   (a) The Permittee shall record the combustion chamber temperature of the afterburner (boiler nos. 1 and 2), continuously when the asphalt blowing line is in operation when venting to the atmosphere. Unless operated under conditions for which the Preventative Maintenance Plan specifies otherwise, the combustion chamber of the afterburner (boiler nos. 1 and 2), shall be maintained at a minimum temperature of 1,500^{o} F, or a temperature established during the latest stack test, and the minimum air flow rate shall be maintained at 1,600 acfm, or an air flow rate established during the latest stack test. The Preventative Maintenance Plan for this unit shall contain troubleshooting contingency and response steps for when the temperature reading is lower than the above mentioned.

These monitoring conditions are necessary because the afterburner (boiler nos. 1 and 2) must operate properly to ensure compliance with 326 IAC 2-8 (FESOP).

Notes:
(1) Asphalt blowing line and boilers nos. 1 and 2 share the same exhaust stack (S32), thus the visible emission notation as part of the compliance monitoring requirements for the two boilers shall also fulfill the visible emission notation requirements for the asphalt blowing line.

(2) No compliance monitoring requirements are included in this FESOP renewal for filler and Talc handling operations' control devices, because each operation has a control device (dust collectors) and has allowable emission rate less than 10 pounds per hour.

Conclusion

The operation of this asphalt roofing manufacturing plant shall be subject to the conditions of the attached proposed **FESOP No.: F129-14097-00011**.

Appendix A: Emission Calculations

Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: November 2, 2001

Potential Emissions (tons/year)

Pollutant	Boiler No.s 1 and 2	Heaters	Flux Heater		Filler Heater		Oil Heater		Heater				Process			Handling and Storage				**Total**
	No. 6 oil combustion	No. 6 oil combustion	No. 6 oil combustion	natural gas combustion	No. 6 oil combustion	natural gas combustion	No. 6 oil combustions	natural gas combustion	No. 2 oil combustion	natural gas combustion	No. 2 oil combustion	Lpg combustion	Shingles and Roll	Modified Bitumen	Asphalt Blowing	Granule Handling	Filler Handling	Talc Handling	Sand Handling	
		Mill oil heater # 2 and Coating heater			Hot oil heater	Hot oil heater	Mod-bit oil heater	Mod-bit oil heater	LIquid asphalt storage heater	LIquid asphalt storage heater	Mill oil heater # 1	Mat heater and flame bar	Production Line	Production Line						
PM	21.10	2.50	2.70	0.10	2.40	0.10	1.90	0.04	0.20	0.02	0.10	0.04	22.70	3.33	70.96	26.81	33.65	0.10	4.06	192.81
PM10	18.40	1.60	1.70	0.20	1.50	0.20	1.20	0.17	0.20	0.08	0.10	0.04	16.35	2.40	65.99	26.81	28.04	0.08	4.06	169.12
SO2	213.70	25.70	27.50	0.00	23.80	0.02	19.10	0.01	5.20	0.01	3.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	318.14
NOx	93.60	11.20	12.00	3.30	10.40	2.80	8.40	2.28	1.60	1.10	0.90	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	148.88
VOC	1.90	0.23	0.25	0.20	0.21	0.20	0.17	0.13	0.00	0.06	0.00	0.05	29.10	5.54	1.49	0.00	0.00	0.00	0.00	39.53
CO	8.50	1.02	1.10	2.80	0.95	2.40	0.76	1.91	0.40	0.92	0.20	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	17.93
total HAPs	0.00	0.00	0.00	0.06	0.00	0.05	0.00	0.04	0.00	0.02	0.00	0.00	0.00	4.24	0.00	0.00	0.00	0.00	0.00	4.42
worst case single HAP	0	0	0	0.059 (Hex)	0	0.05 (Hexane)	0	0.039 (Hex)	0	0.019 (Hexane)	0	0	0	1.16 (Formal)	0	0	0	0	0	1.16 (Formaldehyde)

Total emissions based on rated capacity at 8,760 hours/year.

Controlled Emissions (tons/year)

Pollutant	Limited	Limited	Flux Heater	Filler Heater	Oil Heater	Heater		Process			Handling and Storage				**Total**
	No. 6 Oil combustion	No. 2 Oil combustion	natural gas combustion	natural gas combustion	natural gas combustion	natural gas combustion	Lpg combustion	Shingles and Roll	Modified Bitumen	Asphalt Blowing	Granule Handling	Filler Handling	Talc Handling	Sand Handling	
	Sourcewide	Sourcewide		Hot oil heater	Mod-bit oil heater	LIquid asphalt storage heater	Mat heater and flame bar	Production Line	Production Line						
PM	9.30	0.10	0.10	0.10	0.04	0.02	0.04	22.70	3.33	7.10	26.81	0.34	0.00	4.06	74.04
PM10	5.80	0.10	0.20	0.20	0.17	0.08	0.04	16.35	2.40	6.60	26.81	0.28	0.00	4.06	63.09
SO2	94.50	4.20	0.00	0.02	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	98.74
NOx	41.40	1.30	3.30	2.80	2.28	1.10	1.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	53.48
VOC	0.85	0.00	0.20	0.20	0.13	0.06	0.05	29.10	5.54	0.15	0.00	0.00	0.00	0.00	36.28
CO	3.76	0.30	2.80	2.40	1.91	0.92	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.27
total HAPs	0.00	0.00	0.06	0.05	0.04	0.02	0.00	0.00	4.24	0.00	0.00	0.00	0.00	0.00	4.42
worst case single HAP	0	0	0.059 (Hex)	0.05 (Hex)	0.039 (Hex)	0.019 (Hexane)	0	0	1.16 (Formal)	0	0	0	0	0	1.16 (Formal)

Total emissions based on rated capacity at 8,760 hours/year, after control.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#5 and #6 Fuel Oil

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

Sourcewide No. 6 oil limited throughput (from original FESOP 029-5585-00011)

Heat Input Capacity MMBtu/hr	Limited Throughput kgals/year	S = Weight % Sulfur
		0.8
25.77	1504.79	

		Pollutant				
	PM**	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	12.41	7.70	125.6	55.0	1.13	5.0
	*see below		(157S)			
Potential Emission in tons/yr	9.3	5.8	94.5	41.4	0.85	3.76

***Particulate Matter emission factor for #5 fuel oil is 10.0 lb/kgal**
***Particulate Matter emission factor for #6 fuel oil is 9.19(s) + 3.22 lb/kgal**
**PM emission factor is filterable PM only. Condensable PM emission factor is 1.5 lb/kgal.

Methodology

1 gallon of #5 Fuel oil has a heating value of 139,000 Btu
1 gallon of #6 Fuel oil has a heating value of 150,000 Btu
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MMBtu
Emission Factors are from AP 42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-03-004-02/03,1-02-004-02/03, and 1-03-004-04)
(AP-42 Supplement E 9/98)
Emission (tons/yr) = Throughput (kgals/year) x Emission Factor (lb/kgal)/2,000 lb/ton
No data are available for HAPs emissions calculations

Compliance with 326 IAC 7-1.1-2

The following calculations determine the maximum sulfur content of #2 distillate fuel allowed by 326 IAC 7-1-.1-2:

1.6 lb/MMBtu x 150,000 Btu/gal = 240 lb/1000 gal
240 lb/1000 gal/ 142 lb/1000 gal = 1.7 %

Sulfur content must be less than or equal to 1.7 % to comply with 326 IAC 7-1.1-2.

Facility will comply with 326 IAC 7-1.1-2 by using fuel oil with a limited 0.50% sulfur content.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: GAF Building Materials
Address, City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

Sourcewide limited No. 2 oil throughput.

Heat Input Capacity MMBtu/hr	Limited Throughput kgals/year	S = Weight % Sulfur
		0.47
2.033	127.207714	

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	66.74 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	0.1	4.2	1.3	0.0	0.3

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
See page 2 for HAPs emission calculations.

Compliance with 326 IAC 7-1.1-2

The following calculations determine the maximum sulfur content of #2 distillate fuel allowed by 326 IAC 7-1-.1-2:

0.5 lb/MMBtu x 140,000 Btu/gal = 70 lb/1000 gal
70 lb/1000 gal/ 142 lb/1000 gal = 0.5 %

Sulfur content must be less than or equal to 0.5 % to comply with 326 IAC 7-1.1-2.

Facility will comply with 326 IAC 7-1.1-2 by using fuel oil with a limited 0.50% sulfur content.

Appendix A: Emission Calculations
Asphalt Blowing

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

	THROUGHPUT	THROUGHPUT
	tons/hr	tons/yr
Potential	20	175200

	POLLUTANT		
	PM	PM10 *	VOC
Emission Factor in lb/ton	0.810	0.753	0.017
Potential Emissions in ton/yr	70.96	65.99	1.49
Controlled Emissions in ton/yr	7.10	6.60	0.15

Equivalent emission in lb/hr: 7.10 (tons/yr) / 4.38 (lbs/hr / tons/yr) = 1.62 lb/hr

Compliance Calculations for Subpart UU:

Total emissions from asphalt blowing (lb/hr) = 1.62 lb/hr
Total throughput for asphalt blowing operation (ton/hr) = 20 ton/hr
Equivalent emission facotr in (lb/ton) = 1.62 (lb/hr) / 20 (ton/hr) = 0.081 lb/ton
Equivalent emission factor in kg/mg: 0.081 (lb/ton) x 1/907184.74 (ton/gram) x 10^6 (gram/megagram) x 0.4535 (kg/lb) = **0.0405 kg/megagram**

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 11.2-2, Emission factors for Asphalt Roofing.
Emissions are controlled by an afterburner with control efficiency of 90% for PM, PM-10 and VOC (provided by the source).
PM and PM-10 emissions from asphalt blowing operation are condensible and primarily consist of high molecular organic material.
Based on AIRS/Facility SCC and Emission Factors listing, PM10 emissions are 93% of PM emissions.
Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One (1) natural gas fired unit, identified as flux heater rated at 7.5 MMBtu/hr, with a spare unit fired by a No. 6 Fuel oil.

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
7.5	65.7

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.2	0.0	3.3	0.2	2.8

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions
Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	6.899E-05	3.942E-05	2.464E-03	5.913E-02	1.117E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.643E-05	3.614E-05	4.599E-05	1.248E-05	6.899E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One (1) No. 6 fuel oil fired combustion unit rated at 6.5 MMBtu/hr with natural gas as a backup, and identified as filler heater hot oil heater.

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
6.5	56.9

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.1	0.2	0.02	2.8	0.2	2.4

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions
Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	6.899E-05	3.942E-05	2.464E-03	5.913E-02	1.117E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.643E-05	3.614E-05	4.599E-05	1.248E-05	6.899E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One (1) natural gas fired combustion unit rated at 2.5 MMBtu/hr, identified as liquid asphalt storage heater with No. 2 fule oil as a back up.

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
2.5	21.9

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.02	0.08	0.01	1.10	0.06	0.92

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions
Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	6.899E-05	3.942E-05	2.464E-03	5.913E-02	1.117E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.643E-05	3.614E-05	4.599E-05	1.248E-05	6.899E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One natural gas fired combustion unit with rated heat capacity of 5.2 MMBtu/hr, identified as mod-bit hot oil heater with No. 6 fuel oil as a back up.

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
5.2	45.6

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.04	0.17	0.01	2.28	0.13	1.91

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM Btu/hr 0.3 - < 100

HAPs Emissions
Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	6.899E-05	3.942E-05	2.464E-03	5.913E-02	1.117E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	1.643E-05	3.614E-05	4.599E-05	1.248E-05	6.899E-05

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emission Calculations
Shingles and Roll & Modified Bitumen Production Lines
HAPs Emissions

Company Name: GAF Building Materials
Address, City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

	THROUGHPUT
	ton/hr
Potential	85.9
Limited	85.90

(combined throughput of both lines)

Pollutant (HAPs)	Emission Factor	Potential Throughput	Limited Throughput
	lbs/ton	tons/yr	tons/yr
2-Methylnaphthalene	0.00017	0.06396	0.06396
Acenaphthene	1.4E-06	0.00053	0.00053
Acenaphthylene	2.2E-05	0.00828	0.00828
Anthracene	3.1E-06	0.00117	0.00117
Benzene	0.00039	0.14673	0.14673
Benzo(a)anthracene	2.1E-07	0.00008	0.00008
Benzo(a)pyrene	9.8E-09	0.00000	0.00000
Benzo(a)fluoranthene	1.0E-07	0.00004	0.00004
Benzo(e)pyrene	1.1E-07	0.00004	0.00004
Benzo(g,h,i)perylene	4.0E-08	0.00002	0.00002
Benzo(k)fluoranthene	4.1E-08	0.00002	0.00002
Chrysene	1.8E-07	0.00007	0.00007
Ethylbenzene	2.4E-04	0.09030	0.09030
Fluoranthene	6.1E-07	0.00023	0.00023
Formaldehyde	0.0031	1.16635	1.16635
Hexane	0.00092	0.34614	0.34614
Isooctane	4.0E-05	0.01505	0.01505
Methyl cholroform	4.8E-05	0.01806	0.01806
Naphthalene	0.00065	0.24456	0.24456
Phenanthrene	2.3E-05	0.00865	0.00865
Pyrene	3.0E-06	0.00113	0.00113
Toluene	0.0029	1.09110	1.09110
Xylene	0.0002	0.07525	0.07525
Arsenic	1.3E-06	0.00049	0.00049
Cadmium	4.2E-06	0.00158	0.00158
Chromium	2.4E-05	0.00903	0.00903
Cobalt	1.5E-05	0.00564	0.00564
Lead	0.00054	0.20317	0.20317
Manganese	0.00065	0.24456	0.24456
Nickel	0.0013	0.48911	0.48911
Selenium	2.4E-06	0.00090	0.00090
Total HAPs		**4.23223**	**4.23223**
Single Worst Case HAP	**(Formaldehydel)**	**1.16635**	**1.16635**

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 2.3-3.
combustors, multiple chambers
Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Emission Calculations
Liquid Propane Gas
(Heat input capacity: > 0.3 MMBtu/hr and < 10 MMBtu/hr)

Company Name: GAF Building Materials
Address, City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

Heat Input Capacity	Potential Throughput	SO2 Emission factor = 0.10 x S	
MMBtu/hr	kgals/year	S = Weight % Sulfur =	0.00

One (1) mat heater rated at 1.0 MMBtu/hr; One (1) flame bar rated at 1.0 MMBtu/hr.

2.00	186.38

	Pollutant					
	PM	PM10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	0.4	0.4	0.0 *(0.10S)*	14.0	0.5	1.9
Potential Emission in tons/yr	0.04	0.04	0.00	1.30	0.05	0.18

Methodology

1 gallon of LPG has a heating value of 94,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.094 MMBtu

Emission Factors are from AP42, Fifth Edition (January 1995), Table 1.5-2 (SCC #1-02-010-02)

Emission (tons/yr) = Throughput (kgals/yr) x Emission Factor (lb/kgal) / 2,000 lb/ton

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#5 and #6 Fuel Oil

Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

Two (2) No. 6 oil fired boiler identified as boiler no.s 1 & 2, each rated at 29.14 MMBtu/hr.

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.8
58.28	3403.55	

		Pollutant				
	PM**	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	12.41	10.80	125.6	55.0	1.13	5.0
	see below		*(157S)*			
Potential Emission in tons/yr	21.1	18.4	213.7	93.6	1.9	8.5

***Particulate Matter emission factor for #5 fuel oil is 10.0 lb/kgal**
***Particulate Matter emission factor for #6 fuel oil is 9.19(s) + 3.22 lb/kgal**
**PM emission factor is filterable PM only. Condensable PM emission factor is 1.5 lb/kgal.

Methodology

1 gallon of #5 Fuel oil has a heating value of 139,000 Btu
1 gallon of #6 Fuel oil has a heating value of 150,000 Btu
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MMBtu
Emission Factors are from AP 42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-03-004-02/03,1-02-004-02/03, and 1-03-004-04)
(AP-42 Supplement E 9/98)
Emission (tons/yr) = Throughput (kgals/year) x Emission Factor (lb/kgal)/2,000 lb/ton
No data are available for HAPs emissions calculations

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#5 and #6 Fuel Oil

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One (1) mill oil heater (# 2) with heat input rate of 2.5 MMBtu/hr; One (1) coating heater with heat input rate of 4.5 MMBtu/hr;

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.8
7.00	408.80	

		Pollutant				
	PM**	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	12.41	7.70	125.6	55.0	1.13	5.0
	see below		*(157S)*			
Potential Emission in tons/yr	2.5	1.6	25.7	11.2	0.23	1.02

***Particulate Matter emission factor for #5 fuel oil is 10.0 lb/kgal**
***Particulate Matter emission factor for #6 fuel oil is 9.19(s) + 3.22 lb/kgal**
**PM emission factor is filterable PM only. Condensable PM emission factor is 1.5 lb/kgal.

Methodology

1 gallon of #5 Fuel oil has a heating value of 139,000 Btu
1 gallon of #6 Fuel oil has a heating value of 150,000 Btu
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MMBtu
Emission Factors are from AP 42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-03-004-02/03,1-02-004-02/03, and 1-03-004-04)
(AP-42 Supplement E 9/98)
Emission (tons/yr) = Throughput (kgals/year) x Emission Factor (lb/kgal)/2,000 lb/ton
No data are available for HAPs emissions calculations

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#5 and #6 Fuel Oil

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One (1) natural gas fired unit, identified as flux heater rated at 7.5 MMBtu/hr, with a spare unit fired by a No. 6 Fuel oil.

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.8
7.50	438.00	

		Pollutant				
	PM**	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	12.41	7.70	125.6	55.0	1.13	5.0
	see below		*(157S)*			
Potential Emission in tons/yr	2.7	1.7	27.5	12.0	0.25	1.10

***Particulate Matter emission factor for #5 fuel oil is 10.0 lb/kgal**
***Particulate Matter emission factor for #6 fuel oil is 9.19(s) + 3.22 lb/kgal**
**PM emission factor is filterable PM only. Condensable PM emission factor is 1.5 lb/kgal.

Methodology

1 gallon of #5 Fuel oil has a heating value of 139,000 Btu
1 gallon of #6 Fuel oil has a heating value of 150,000 Btu
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MMBtu
Emission Factors are from AP 42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-03-004-02/03,1-02-004-02/03, and 1-03-004-04)
(AP-42 Supplement E 9/98)
Emission (tons/yr) = Throughput (kgals/year) x Emission Factor (lb/kgal)/2,000 lb/ton
No data are available for HAPs emissions calculations

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#5 and #6 Fuel Oil

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One (1) No. 6 fuel oil fired combustion unit rated at 6.5 MMBtu/hr with natural gas as a backup, and identified as filler heater hot oil heater.

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.8
6.50	379.60	

		Pollutant				
	PM**	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	12.41	7.70	125.6	55.0	1.13	5.0
	see below		*(157S)*			
Potential Emission in tons/yr	2.4	1.5	23.8	10.4	0.21	0.95

***Particulate Matter emission factor for #5 fuel oil is 10.0 lb/kgal**
***Particulate Matter emission factor for #6 fuel oil is 9.19(s) + 3.22 lb/kgal**
**PM emission factor is filterable PM only. Condensable PM emission factor is 1.5 lb/kgal.

Methodology

1 gallon of #5 Fuel oil has a heating value of 139,000 Btu
1 gallon of #6 Fuel oil has a heating value of 150,000 Btu
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MMBtu
Emission Factors are from AP 42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-03-004-02/03,1-02-004-02/03, and 1-03-004-04)
(AP-42 Supplement E 9/98)
Emission (tons/yr) = Throughput (kgals/year) x Emission Factor (lb/kgal)/2,000 lb/ton
No data are available for HAPs emissions calculations

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: GAF Building Materials
Address, City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

One (1) natural gas fired combustion unit rated at 2.5 MMBtu/hr, identified as liquid asphalt storage heater with No. 2 fule oil as a back up.

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.47
2.5	156.428571	

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	66.74 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	0.2	5.2	1.6	0.0	0.4

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
See page 2 for HAPs emission calculations.

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#5 and #6 Fuel Oil

Company Name: **GAF Building Materials**
Address City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One natural gas fired combustion unit with rated heat capacity of 5.2 MMBtu/hr, identified as mod-bit hot oil heater with No. 6 fuel oil as a back up

Heat Input Capacity MMBtu/hr	Potential Throughput kgals/year	S = Weight % Sulfur
		0.8
5.20	303.68	

	Pollutant					
	PM**	PM-10	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	12.41	7.70	125.6	55.0	1.13	5.0
	*see below		(157S)			
Potential Emission in tons/yr	1.9	1.2	19.1	8.4	0.17	0.76

***Particulate Matter emission factor for #5 fuel oil is 10.0 lb/kgal**
***Particulate Matter emission factor for #6 fuel oil is 9.19(s) + 3.22 lb/kgal**
**PM emission factor is filterable PM only. Condensable PM emission factor is 1.5 lb/kgal.

Methodology

1 gallon of #5 Fuel oil has a heating value of 139,000 Btu
1 gallon of #6 Fuel oil has a heating value of 150,000 Btu
Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.139 MMBtu
Emission Factors are from AP 42 Tables 1.3-1, 1.3-2 and 1.3-3 (SCC 1-03-004-02/03,1-02-004-02/03, and 1-03-004-04)
(AP-42 Supplement E 9/98)
Emission (tons/yr) = Throughput (kgals/year) x Emission Factor (lb/kgal)/2,000 lb/ton
No data are available for HAPs emissions calculations

Appendix A: Emissions Calculations
Commercial/Institutional/Residential Combustors (< 100 mmBtu/hr)
#1 and #2 Fuel Oil

Company Name: **GAF Building Materials**
Address, City IN Zip: **901 Givens Road, Mt. Vernon, IN 47620**
FESOP Renewal No.: **129-14097-00011**
Reviewer: **Adeel Yousuf / EVP**
Date: **September 28, 2001**

One No. 2 fuel oil fired combustion unit with a rated capacity of 1.5 MMBtu/hr identified as mill oil heater # 1

Heat Input Capacity MMBtu/hr	Limited Throughput kgals/year	S = Weight % Sulfur
		0.47
1.5	93.8571429	

	Pollutant				
	PM*	SO2	NOx	VOC	CO
Emission Factor in lb/kgal	2.0	66.74 *(142.0S)*	20.0	0.34	5.0
Potential Emission in tons/yr	0.1	3.1	0.9	0.0	0.2

Methodology

1 gallon of No. 2 Fuel Oil has a heating value of 140,000 Btu

Potential Throughput (kgals/year) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1kgal per 1000 gallon x 1 gal per 0.140 MM Btu

Emission Factors are from AP 42, Tables 1.3-1, 1.3-2, and 1.3-3 (SCC 1-03-005-01/02/03) Supplement E 9/98 (see erata file)
*PM emission factor is filterable PM only. Condensable PM emission factor is 1.3 lb/kgal.
Emission (tons/yr) = Throughput (kgals/ yr) x Emission Factor (lb/kgal)/2,000 lb/ton
See page 2 for HAPs emission calculations.

Appendix A: Emission Calculations
Shingles and Roll Production Line

Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

	THROUGHPUT	THROUGHPUT
	tons/hr	tons/yr
Potential	73	639480
Limited	73	639480

	POLLUTANT		
	PM	PM10	VOC
Emission Factor in lb/ton	0.071	0.051	0.091
Potential Emissions in ton/yr	22.70	16.35	29.10
Limited Emissions in ton/yr	22.70	16.35	29.10

Equivalent PM emissions in lb/hr: 22.70 (tons/yr) / 4.38 (lbs/hr / tons/hr) = 5.18 lb/hr

Methodology

Emission factors are from AP 42 (5th Edition 1/95) Table 11.2-2, Emission factors for Asphalt Roofing. PM emission factor used is for units with HEAF control; source shall conduct a stack test to demonstrate compliance with the emission factor.
Based on AIRS/Facility SCC and Emission Factors listing, PM10 emissions are 72% of PM emissions (SCC # 3-05-001-04)
Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Emission Calculations
Modified Bitumen Production Line

Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
FESOP Renewal No.: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

	THROUGHPUT	THROUGHPUT
	tons/hr	tons/yr
Potential	12.9	113004

	POLLUTANT		
	PM *	PM10	VOC
Emission Factor in lb/ton	0.059	0.042	0.098
Potential Emissions in ton/yr	3.33	2.40	5.54
Controlled Emissions in ton/yr	3.33	2.40	5.54

Equivalent PM emissions in lb/hr: 3.33 (tons/yr) / 4.38 (lbs/hr / tons/hr) = 0.760 lb/hr

Compliance Calculations for Subpart UU:

Total emissions from modified bitumen production line (lb/hr) = 0.760 lb/hr
Total production capaity for modified bitumen production line (ton/hr) = 12.9 ton/hr
Equivalent emission facotr in (lb/ton) = 0.760 (lb/hr) / 12.9 (ton/hr) = 0.0589 lb/ton
Equivalent emission factor in kg/mg 0.0589 (lb/ton) x 1/907184.74 (ton/gram) x 10^6 (gram/megagram) x 0.4535 (kg/lb) = **0.0294 kg/Mg** **< 0.4 kg/Mg**

Methodology

* PM emission factor is based on the stack test conducted in 1988.
Emission factors are from AP 42 (5th Edition 1/95) Table 2.1-12, Uncontrolled emission factors for industrial/commercial refuse
Based on AIRS/Facility SCC and Emission Factors listing, PM10 emissions are 72% of PM emissions (SCC # 3-05-001-04)
Throughput (lb/hr) * 8760 hr/yr * ton/2000 lb = throughput (ton/yr)

Appendix A: Secondary Metal Production
Storage and Handling of Bulk Material
Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
CP: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

Shingle and Modified Bitumen Granules handling

	TONS/YR	
Maximum Throughput	268072	
	PM	**PM10**
	lbs/ton metal handled	**lbs/ton metal handled**
	0.2	0.03
Potential Emissions lbs/hr	6.12	0.92
Potential Emissions lbs/day	146.89	22.03
Potential Emissions tons/year	26.81	4.02
Potential Emissions after control tons/yr	26.81	4.02

Notes:
Emission factor for shingle and mod-bit granule handling was taken from AIRS Facility emission factors (SCC#3-05-002-02) for sand handling based on an engineering judgement.

Shingle and Modified Bitumen filler handling

	TONS/YR	
Maximum Throughput	280404	
	PM	**PM10**
	lbs/ton metal handled	**lbs/ton metal handled**
	0.24	0.2
Potential Emissions lbs/hr	7.68	6.40
Potential Emissions lbs/day	184.38	153.65
Potential Emissions tons/year	33.65	28.04
Potential Emissions after control tons/yr (1	0.336	0.280

Notes:
Emission factor for shingle and mod-bit filler handling was taken from AIRS Facility emission factors (SCC# 3-05-006-19) for sand handling based on an engineering judgement. Same emission factors were also used in original FESOP (F129-5585-00011).
(1) Contolled by a baghouse with 99% capture effeciency.

Appendix A: Secondary Metal Production
Storage and Handling of Bulk Material

Company Name: GAF Building Materials
Address City IN Zip: 901 Givens Road, Mt. Vernon, IN 47620
CP: 129-14097-00011
Reviewer: Adeel Yousuf / EVP
Date: September 28, 2001

Talc handling

	TONS/YR	
Maximum Throughput	801	
	PM	**PM10**
	lbs/ton metal handled	**lbs/ton metal handled**
	0.24	0.2
Potential Emissions lbs/hr	0.02	0.02
Potential Emissions lbs/day	0.53	0.44
Potential Emissions tons/year	0.10	0.08
Potential Emissions after control tons/yr (1	0.001	0.001

Notes:
Emission factor for talc handling was taken from AIRS Facility emission factors (SCC#3-05-007-19) for cement handling based on engeineering judgement.
(1) Contolled by a baghouse with 99% capture effeciency.

Shingle and Modified Bitumen sand handling

	TONS/YR	
Maximum Throughput	40593	
	PM	**PM10**
	lbs/ton metal handled	**lbs/ton metal handled**
	0.2	0.03
Potential Emissions lbs/hr	0.93	0.14
Potential Emissions lbs/day	22.24	3.34
Potential Emissions tons/year	4.06	0.61
Potential Emissions after control tons/yr	4.06	0.61

Notes:
Emission factor for shingle and mod-bit sand handling was taken from AIRS Facility emission factors (SCC# 3-05-002-02) for sand.